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I.—*Further Notes on the Birds of Gazaland.*

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(Plates I. & II.)

I HAVE already, in my former paper ('Ibis,' 1907, p. 30), mentioned some of the boundaries of Gazaland and have given a rough description of its high veld. A few further details may be of interest.

In its most limited sense, the term "Gaza" should be applied only to the somewhat thickly-inhabited tract in the neighbourhood of Beleni (inland from Lourenço Marques), which for long formed the head-quarters of the conquering Aba-Gaza. The country to the north, bounded roughly by the Buzi, the Lusitu, and the two Musapa Rivers, is more properly called Musapa; but, in practice, the latter name is seldom employed, the word "Gazaland" being invariably used by South Africans to indicate the whole province actually ruled and occupied (not merely raided) by the Aba-Gaza before their final subjection at the hands of the Portuguese, right up to the above-mentioned rivers. Gazaland lies chiefly on the Portuguese side of the present political border, but includes the Rhodesian district of Melsetter, and is bounded on the east by the sea.

Interest will be added to my notes on the distribution of local species by the fact that I have had occasion during the

past year to wander further afield than for some seasons previously, and through a very varied country. My trips comprised a journey in September to Northern Melssetter, with the attempted ascent of one of the higher peaks of the Chimanimani (an undertaking which I was prevented by the weather from completing), two stays in the lower Jihu, and a four-hundred-mile tramp across the low veld to Beira and back (as shown in the map, Plate I.). This included a visit to the famous *Landolphia*-forests of the Madanda, whence the Mozambique Company draws a large proportion of its annual rubber-output. From an ornithological point of view, the trip was, on the whole, disappointing. It was undertaken at about the worst time of the year for travelling, and the heat was so stifling that I hardly ever completed a march without two or three of my natives, who were all picked men, falling out, and having to be brought on at the end of the day with relief in the shape of water and assistance. Forced marches were usually necessary; for not only was my time limited, but the road lay for the most part at some distance from the river, and water, which was obtained largely from stagnant pools in dry river-beds or from holes dug in the sand, was exceedingly scarce. Consequently, on reaching the day's destination, I often felt utterly fagged, and it required quite an effort of will to label and dissect the specimens and to write up the diary for the day, while, near the river, this difficulty was increased by the swarms of mosquitoes (chiefly *Anopheles*) which assailed us persistently throughout the evening. We travelled for the most part through scattered bush composed largely of two species of *Combretum* and an *Acacia* (probably *A. catechu*), of which the thorns were a great source of trouble to my bare-footed carriers; while *Albizzia amara* and the "Mukwakwa"—a fine *Strychnos*, the fruits of which enter largely into the food of the local natives—were in parts hardly less common. Towards the coast again these and the other commoner species of the open woods become intermingled, sometimes with Palmyra-palms, at other times (especially along the river and on the fertile soil east of the Idunda) with

trees of far finer growth, such as the oil-yielding *Trichilia emetica*, a *Kigelia* with huge sausage-shaped fruits, *Sterculia Triphaca*, and others. The grass was for the most part fairly short, excepting on the river-banks, which were often clothed with the luscious growth of *Sorghum halepense* and *Anatherum muricatum*, while occasionally between Chibabava and the coast we passed through patches of dense bush, including a piece of true forest containing some fine Khayas (near *Khaya senegalensis*) and a number of magnificent straight-stemmed Sterculias on the Eocene limestone of the Idunda.

The portions of the Madanda forests which I visited are simply dense bush, averaging little more than twenty-five feet in height and composed chiefly of such low-growing trees as *Crossopteryx Kotschyana* and *Erythroxylon emarginatum*, the whole being bound together with a tangle of vines (*Landolphia Kirkii*, *Secamone zambesiaca*, a *Landolphia*-like *Salacia*, &c.). In their general style these forests are not unlike the denser thickets of the Jihu; but the latter contain no *Landolphia* to speak of and consist mostly of other trees, the three commonest being a *Brachylena*, the wood of which is prized by the natives for bow-making, *Conopharyngia elegans*, and *Markhamia lanata*, with handsome yellow flowers and fibrous bark, commonly used as a substitute for rope, while throughout the more open jungle of the Jihu *Pterocarpus melliferus* is quite the commonest tree. At the time of my visit to the Kurumadzi, early in August, the clumps of *Leonotis mollissima*, which form such a characteristic feature of the grass-jungle, were in full bloom and swarming with birds of all kinds. The *Leonotis* is to the small birds of the Jihu what the "Guniti" (a large *Celtis* near *C. eriantha*) is to those of Chirinda, and during my twelve days' stay I added no less than a hundred and forty interesting specimens to my collection.

It may give some idea of the grass-jungle of the Jihu if I state that in order to get about (I was locating a concession) we had to cut our way everywhere with axes and hoes, and that the backs of my natives were often pouring with blood, the intense irritation of the "buffalo beans"

(*Mucuna coriacea*), which clustered everywhere in the tall grass and bush and let fall their velvety stings on us in showers as we worked, forcing them to scrape themselves with sticks and sharp-edged stones. The paths which I thus opened up were greatly appreciated by the birds: I counted fifteen individuals of *Spermestes nigriceps*, eight of *Lagonosticta jamesoni* (in pairs), one of *Laniarius olivaceus*, a pair of *Cisticola cinerascens*, and a few female Weaver-birds, all feeding together on the ground within a few yards; and this was the sort of sight which might be witnessed at intervals all along the paths every morning.

The scrub of the Northern Melssetter kloofs, to which I shall also have frequent occasion to refer, is composed mostly of *Buddleia salrifolia*, a sweet-scented *Smithia* (near *S. Harmsiana*), a somewhat larger *Æschynomene*, and dense thickets of a curious *Sequoia*-like fern (*Gleichenia umbra-culifera*) and of a widely-straggling *Choristylis*. The dense forest-patches of these higher elevations (5000 to 8000 feet) are very different in character to those of either Southern Melssetter, the Jihu, or the lowlands, being intermediate in the size of the trees between Chirinda and the latter, but with very few species in common with either: the most characteristic are *Curtisia faginea*, *Cussonia umbellifera*, a *Mæsa*, and, particularly on Mount Peuc, a large handsome *Sizygium*. Two conifers are also met with in some numbers—*Widdringtonia Whytei*, which yields the most valuable timber in South-eastern Africa, and *Podocarpus milanjana*.

I have already, in my former paper, mentioned Chirinda and the smaller forest-patches of Southern Melssetter; so far as I am aware, they are the only forests with really big trees in the country, some of these trees reaching to over a hundred and fifty feet in height.

In the accompanying map (Plate I.) will be found all the localities mentioned in this and my former paper. The initials "Rh." and "P." after each name in the following list stand throughout for "Rhodesia" and "Portuguese East Africa" respectively, and indicate the side of the border on which the species was found.



MAN

20

VICTORIA DISTRICT

UMTALI DISTRICT

NORTHERN

MELSETTER

SOUTHERN

MELSETTER

MOSSURIZE DISTRICT

GUNYE

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65
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I have frequently heard the remark made that we possess few or no singing-birds in Africa. This argues a lack either of observation or of early rising; for I imagine that nothing finer could be heard in any country than the loud and varied chorus, not only of striking calls but of actual song, which arises from any well-jungled river-valley in Gazaland at about sunrise. After the usual preliminaries, sometimes long before dawn, on the part of *Pternistes humboldti* or the other Francolins, followed by an occasional warble from a Stonechat or Seed-eater, or the booming conversation of a party of Ground-Hornbills, the first *Cossypha heuglini*, just as dawn appears, sounds a *réveille*. Immediately a chorus of the songs of these delightful Robins—finer songsters, to my mind, than English Nightingales—springs from the jungle-clad slopes in every direction, and continues for half an hour or so, becoming more and more interspersed and finally replaced by the liquid Nightingale-notes of *Laniarius bertrandi* and the mellow calls of the various other Bush-Shrikes. Finally the Sun-birds (and a host of others) join in, perching high in the trees to catch the first rays of the rising sun, and descending with it till they again reach the *Leonotis*-blooms, when they proceed to the business of getting breakfast, and the burst of song gradually breaks off into the ordinary chatter of the day. The evening is the next best time; but during the day the songs are much shorter and more isolated, and this, combined with the fact that, at least in our part of Africa, the settler chooses the short turf of the higher hills for his homestead, while our song-birds prefer the jungle, leads to the erroneous idea that I have just mentioned.

I am indebted to Mr. David Odendaal for much intelligent help rendered during the past year, and take this opportunity to offer my best thanks to Mr. G. A. K. Marshall for his valuable assistance, to Dr. Rendle and Messrs. Moore and Baker for the great trouble they have taken in working out, at short notice, the plants which I had occasion to mention in these notes, and to Dr. Bowdler Sharpe for his kindness in identifying some of my birds.

My thanks are also due to Mr. D. M. Stanley for much interesting information.

The following list, which, together with a few mentioned in my last paper but not again in this, comprises about three hundred species, includes several further additions to the South African Fauna.

The nomenclature and arrangement, unless otherwise specified, are those of Mr. W. L. Selater's 'Fauna of South Africa.'

The native names are given in the two local languages, Chindao and Singuni.

1. *CORVULTUR ALBICOLLIS*. White-necked Raven.

Singuni: "Iqugwana" (Zulu *q*) or "Ingwababa." Chindao: "Igungu."

Rh., P. A characteristic high-veld species, not appearing to extend in any numbers to the low veld of the east coast; to the north it finds its limit as a dominant species in Mashonaland, between Marandella and Salisbury, at the former of which places it is plentiful. It is the common Crow at Umtali. I have noted it in the Chimanimani Mountains and in the lower Jihu, but in the latter locality it appears to be somewhat scarce. It occasionally follows the plough; and two instances of its attacking young chickens have recently come to my notice. A male recently shot by Odendaal measured 20.62 inches in the flesh. A stomach which I examined contained mealies and small beetles.

2. *CORVUS SCAPULATUS*. Pied Crow.

Chindao: "Chigombe."

Rh., P. A pair of these Crows again built at Odendaal's homestead this season; and on two or three occasions during the past year I have seen them or recognised their peculiar broken croak. On Sept. 2nd one of a party of three, evidently passing through from the lowlands, descended and commenced to feed on some scraps at my doors; but I found them very shy, a great contrast to

their behaviour at Salisbury. They appear to have better memories than many birds, for not only did the mate of one which I shot some years ago in Mashonaland follow me up to my house, wheeling above my head and croaking, but for three or four days afterwards, when going backwards and forwards to my work, I was constantly met by a Crow, presumably the same bird, which abused me energetically, flying above my head or settling in front of me on the road and allowing me to pass within three or four yards of it. Two eggs in my collection measure 46 by 32 mm., and are pale greenish grey in ground-colour covered with spots and small blotches of olive and underlying violet-grey. The nest was placed twenty feet from the ground in a large thorn-tree, and was small for the size of the bird, as well as remarkably well hidden. It was built externally of sticks and lined with a felt similar to that used by *Corvus capensis*, but much intermingled with grass and roots. A pair, I am informed by Mr. Brent, build annually near the junction of the Nyahode and Lusitu Rivers. In the low veld these birds quite take the place of the Raven, and I found them to be particularly plentiful in the neighbourhood of Gwaragwara and Malata, near the mouth of the Buzi.

3. CORVUS CAPENSIS. Black Crow.

Rh. Mr. Brent informs me that he has noted this Crow on the Lusitu, but that even there it is extremely uncommon. I have heard of no instance of its nesting in the district, though I have frequently taken its eggs in Mashonaland. In coloration they much resemble those of *Pycnonotus layardi*, and possess about the same range of variation, one type being very like that found in the English Missel-Thrush, but of course larger. The nests, usually placed in thorn-trees some nine to twenty-five feet from the ground, were smaller than those of the English Rook, and compactly built of small sticks and twigs, neatly rounded and interwoven, and lined with a thick warm felt of hair, feathers, and down. A stomach contained beetles, locusts, and mealies.

4. *BUPHAGA AFRICANA*. Yellow-billed Oxpecker.

Rh., P. This bird is called by the Amanguni "Ilanda," and by the Abandao "Ideira-ngombe" (*i. e.* "Ox-follower"), in allusion to its well-known habits.

5. *AMYDRUS MORIO*. Red-winged Starling.

Rh., P. Our commonest Starling, but at all times very local, being found in any portion of the district that offers the best food-supply at the moment. Throughout June and July 1906 its pleasing notes "Peoo! peoo!" or occasionally in flying "Chechipeoo! chechipeoo!" might be heard in and about Chirinda, where the ripening of the "Chisipi" crop of figs was the chief attraction in June, while later it took to following the locust-swarms in large flocks. On July 30th I noted a pair in the Jihu. The birds again appeared at Chirinda on September 2nd, and on the 8th I noted them on the Inyamadzi and on Mount Umtereni (Mafusi). In April of this year a large flock was haunting the neighbourhood of Melsetter itself; while in September 1906 I found numbers of them nesting in the crags of the Chimanimani Mountains.

A male captured last July, with a broken wing, shewed very little fear, readily taking locusts, grubs, and pieces of orange through the bars of its cage. Its "Peoo" was used, I noticed, both as a call and as a note of alarm when frightened. Length in the flesh (of a male) 12·9 inches.

6. *LAMPROCOLIUS MELANOGASTER*. Black-bellied Glossy Starling.

P. I noted this bird on December 5th at Gezanye, between Chibabava and the Madanda forests and nearly ninety miles from the coast (*cf.* Shelley, B. Afr. v. p. 84), and again on the following day in the *Brachystegia*-woods bordering the rubber-forests at Arucate. Both were single individuals, probably breeding males. The length of my specimen in the flesh was 8·9 inches, and its irides shewed two distinct rings of colour, the inner bright gamboge, the outer orange. The stomach contained a smallish snail and fruits, apparently of *Clerodendron myricoides*.

7. CINNYRICINCLUS LEUCOGASTER VERREAUXI. Verreaux's Glossy Starling.

Rh., P. I found these Starlings going about singly or in small flocks in various localities in the low veld during December and January, all the way from Zinyumbo to the neighbourhood of the coast; also from Chibabava south to Arucate, where I obtained specimens in the *Brachystegia* bordering the Madanda. At the end of March 1907 they visited Chirinda and its neighbourhood in considerable numbers, attracted by the ripening of the Guniti crop: I usually met with them in parties of from six to a dozen individuals.

The length of this bird in the flesh varies from 6·8 to 7·6 inches, five specimens giving an average of 7·17. The irides of adults are lemon-yellow, but in an immature bird they are dark brown ringed externally with lemon; the gape is yellow. Of five stomachs examined, three contained fruit only (*Celtis* and *Clerodendron myricoides*), one *Celtis*-fruits and insects, and one insects only.

Actual localities where noted: in the lowlands, Inyamita, Inyajena, Muzala, Umtefu, Mwangezi, Chibabava, Zinyumbo, Gezanye, Arucate; and in the high veld, Chirinda and its neighbourhood only.

8. ORIOLUS NOTATUS. Andersson's Oriole.

Rh., P. In the middle of December and again in January I noted a few of these Orioles in full plumage in the higher trees bordering some large pools near Chibabava, all single individuals and very shy and unapproachable. In April of this year they were extremely common in the open woods near Chirinda, but those seen and shot during that month were in immature plumage and far tamer than those previously noted.

Of four birds in immature plumage, two measured 9·5 inches in the flesh, one 9·2, and the fourth 9, giving an average of 9·3 inches; and the three stomachs examined contained, respectively, five, eleven, and two hairy caterpillars. Bill black; irides dark brown; feet grey. The irides of an adult

male were bright carmine and the bill reddish brown; while the stomach contained only beetles.

9. *ORIOLOUS LARVATUS*. Black-headed Oriole.

Chindao: "Chimkurioku" (in imitation of one of its calls).

Rh., P. A resident species and common in the open woods, particularly in the autumn and winter, when single birds in immature plumage may constantly be met with, often travelling from tree to tree steadily in one direction. I was inclined to look on this as a partial migration, but have since sometimes found them travelling in a diametrically opposite direction to that of the day before. These birds of the year utter a flute-like whistle, rather well rendered by the natives as "Kuryo!", followed frequently by a harsh note (the final "ku" of its Chindao name). The adults have a wider *répertoire* of notes, most of them remarkably pleasant and flute-like, of which a mellow "Kawhee-kawhau!" is perhaps the commonest. They are not infrequently to be found in the high trees on the edge of Chirinda, and though at all times far less approachable than the immature birds, are in other respects not particularly shy, occasionally visiting my orchard or frequenting the Eucalypts at my homestead. I found them fairly common on the Kurumadzi in August, at Maruma in September, and in the same month in Melsetter; I have noted them, in fact, at a number of localities throughout Northern and Southern Melsetter and in the lowlands, particularly at Chibabava and Arucate and the country between these two places.

Out of six stomachs examined, all contained large and more or less hairy caterpillars (in one case as many as ten), and two contained large seeds as well. Measurements in the flesh: 9 inches (imm. male), 8.5 (imm. female), and 9.5 (an adult male).

10. *HYPHANTORNIS NIGRICEPS*. Black-headed Weaver-bird.

Chindao: "Ingozha."

Rh., P. A rather widely distributed species, confining

itself, however, to the larger rivers and to grass-jungle, where colonies of its kidney-shaped nests may frequently be found slung from the twigs of the thorn-trees. On the 25th of November 1906, at Zinyumbo, I counted no less than 373 such nests in a single "Iguwlia" (*Acacia* near *A. catechu*). There were numbers of birds in the tree, chirping, quarrelling, chasing one another, and generally making a great hubbub; hundreds of nests, old and new, lay about on the ground, with quantities of broken egg-shells—some of them pure white, others (the majority) pale blue, while others again were pale blue speckled and blotched with grey. The nests were strongly woven out of a tough grass, mostly pink in colour, roofed, many of them, with the leaves of the tree itself, and lined (after the manner of *H. jamesoni*) with the heads of *Tricholæna rosea* and other downy grasses. A typical nest, picked out from those littering the ground, was 6·45 inches long by 4·7 deep; diameter of opening 2 inches. In some instances the slightly projecting mouths were very curiously plaited; in others the mouths did not project at all. The birds probably resent the presence of other species in the neighbourhood of their colonies, for I saw a pair vigorously attacking a dark bird larger than themselves in a neighbouring tree. A few days later I noted a colony of Black-headed Weavers on an island in the Buzi, near Chibabava, their nests hanging in hundreds from the reeds and other growth (especially *Sesbania punctata*) bordering the water. Often several birds at a time could be seen hanging from the nests by their feet and fluttering their wings violently, while the whole colony set up an excited chattering. Two, six, or more would occasionally leave the island and fly off into the open woods, where I sometimes came across them scattered here and there searching for insects. Two of four stomachs recently examined have contained insects only (small beetles and grasshoppers), two both seeds and insects.

Localities: Jihu, Mafusi (Maruma and Chikamboge Valley), and various points in the low veld to within a few miles of the coast (Gwaragwara).

Of three males, two measured 6·65 inches each in the flesh, and the third 6·5.

11. *HYPHANTORNIS AURICAPILLUS*. Shelley's Weaver-bird.
Ploceus auricapillus, Reichenow, Vög. Afr. iii. p. 79.

P. I met with this Weaver at a number of points in the low veld, including the Umtefu River and the country east of the Idunda River as far as Inyamita, as well as in that between Chibabava and the Madanda forests. I also very frequently came across the nests, of the same form as those of *H. nigriceps*, but at once distinguishable by their smaller size and neater construction. They were hung from the twigs of Acacias and other trees, often quite a number within the radius of a few hundred yards, but seldom more than three or four to a tree. At Chimbuya's, near the Umtefu, I took a nest containing two eggs on November 26th. It was slung, thirty feet from the ground, from a thin twig of *Diospyros* and had to be shot down; while near it were two other nests, one of which, at least, belonged to another pair of birds. Mine, which was quite a typical specimen, was 4·8 inches long by 4·2 deep and 3·3 broad, and was very neatly constructed of grass-blades, some of which had been green when inserted, and roofed with green Acacia-leaves and lined with fine grass-heads. The eggs were creamy white, with spots, short lines, and blots of purplish brown, and blotches (some of them large) of paler brown-madder; they measured 21 by 14·2 mm. Two stomachs examined each contained beetles only. A breeding male in my collection measured 6·1 inches in the flesh; bill black, irides bright orange, feet leaden grey. A non-breeding male had the bill yellowish brown, the lower mandible paler and pinker with a dusky tip, the feet of the same colour as the lower mandible, and the irides chestnut-orange.

12. *HYPHANTORNIS SUBAUREUS*. Yellow Weaver-bird.

P. Large numbers of these Weavers were nesting along the Buzi at Chibabava at the end of November, the males frequently flying up into the air to display their brilliant

yellow coloration. The nests were of much the same shape and materials as those of *H. nigriceps*, and were slung from the ends of the reeds and the drooping twigs of a shrub (*Sesbania punctata*) common at the water's edge. A male which I secured measured 5·9 inches in the flesh; its bill was jet-black, its irides were orange-red, and its feet light reddish brown. The stomach contained only a small portion of a beetle.

13. *HYPHANTORNIS JAMESONI* (Sharpe). Jameson's Weaver-bird.

Ploceus xanthops jamesoni, Reichenow, Vög. Afr. iii. p. 90.
Singuni: "Ihloka-hloka." *Sitagra capensis* of former paper.

Rh., P. A high-veld species which I have not so far observed lower than the Jihu and Mafusi's country. In Southern Masetter it may often be found feeding amongst the high weeds in old gardens, and it builds both along streams and in grass-jungle, the nest in the former case being firmly bound to the side of a tall reed (or sometimes slung between two) by means of the shredded leaves of our common date-palm (*Phoenix dactylifera*). This material, tough and springy, also enters largely into the external construction of the nest, only a few heads and stems of grass being worked in besides. In tall grass-jungle, however, the nest is often entirely made of coarse grass-blades, and slung, by the centre of its convex side, from the slender outer twig of some tree. The interior is warmly lined, the dome more thickly than the bottom of the cup, doubtless with an eye to rain, with the fluffy white heads of a coarse-bladed grass (*Tricholæna rosea*) which springs up commonly in cultivated fields after abandonment. Several of these white fluffy heads almost invariably protrude from the porch and add an ornamental finish to a nest which is, in any case, by no means so neat as that of *Sitagra ocellaria*, owing, partly, to the greater width of the palm-strips employed. Occasionally other grasses, especially a common *Diplachne*, are also used in the lining. In form the nest rather resembles that of

H. nigriceps, with the opening at one end of its lower, concave surface, and it varies somewhat in size: length 6·75 to 8·5, depth 4·6 to 5·3, and width from side to side 3·75 to 5 inches, the diameter of the opening ranging from 2 to 3·1 inches. The grass-built nests are usually larger and clumsier than the others. The eggs vary, some being white, others light blue, while a third type is light blue freckled throughout with dull violet and light and darker brown spots, somewhat bigger and more numerous, as a rule, about the larger end. The birds are shy and always make off at the first alarm, never returning to the nest until long after the intruder's departure. The bill of the male, in the breeding-season, is black, at other times dusky brown above with a paler pinkish or yellowish gonys; the feet are pale pinkish or purplish brown or grey, or dusky flesh-coloured; the irides gamboge (sometimes very deep), or, occasionally, ochreous or grey-brown.

14. SITAGRA OCLARIA. Smith's Weaver-bird.

Chindao: "Ijekete."

Rh., P. A common species along the streams and in grass-jungle, including in its local range the whole of the Jihu and Southern Melsetter, and portions of Northern Melsetter. Near Chirinda its nests may usually be found just inside clumps of dense bush, or else along the streams, suspended from the ends of the palm-leaves or the twigs of *Bridelia* and other trees. In this case they are usually neatly woven from narrow strips of the palm-leaves (*Phœnix dactylifera*), this being the only material employed except for the lining, which is formed entirely of the thin, somewhat tough fibres of the same leaves, neatly stripped out of them while still green. The entrance-tube varies greatly in length, there being sometimes, though rarely, none at all; and the mode of attachment also varies, the weaving being occasionally carried up into the supporting leaf for nine or ten inches. The leaves of the common reed (*Phragmites communis*), similarly shredded, are also sometimes employed, or, when far from water, stiff grass-blades.

Measurements: diameter of entrance 2·2 inches, that of cup (externally, from side to side) 3·25; front to back, including upper portion of tube, 5·25; depth of cup, external, exclusive of attachment, 4·7 inches. The nest proper varies less in form and measurements than in appearance, its degree of neatness depending entirely on the fineness of the strips employed.

A second type of nest, of which I have taken two (shooting the bird each time to make sure of its identity), though at first sight very different in appearance, varies actually from the more usual type rather in method of suspension than in shape. It is entered by a horizontal tunnel which is sewn to the side of the nest, and is thus equivalent to an ordinary nest suspended by its side. The eggs are usually bluish white, with blotches and spots, most plentiful about the larger end, of light grey, each spot being often paler in the centre than at the margins. Sometimes brown spots are intermingled with the grey, but I have never found the red-spotted variety described by Dr. Stark (*Fauna of S. A.* vol. i. p. 68). They measure from 20 to 22·7 mm. in length, by from 14 to 15 in breadth, the commonest combination being 20 by 15. The birds leave the nest at once when disturbed, keeping low along the stream till out of sight, or disappearing into the denser bush. They continue to take quite a pride in the appearance of their home even after its completion, and I have watched a sitting hen leave the tube and climb about all over the nest, re-arranging a strip here or pushing in a loose end there.

A male in my collection measured 6·8 inches in the flesh; its bill was black, its feet were bluish grey, and its irides light yellow. Two stomachs examined contained only insects (beetles and spiders).

15. *SYCROTUS STICTIFRONS*. Spot-headed Weaver-bird.

Rh., P. To be found wherever the bush is sufficiently dense, in high veld or low; I have myself noted it in the small forest-patches of the Chikamboge Valley, in the Madanda forests, and near Chibabava, where it was breeding

last December. In Chirinda it may often be seen during the latter half of October and early in November, usually in pairs, when it frequents the staminate individuals of a common beech-like *Croton*, which is then in full bloom, moving about quietly amongst the flower-laden twigs and gathering in a great harvest of insects; occasionally, while thus engaged, it utters a loud call, midway between a Weaver's "spink" and the creaking note of a Drongo.

The length of this Weaver in the flesh varies from 6.5 to 6.6 inches.

16. *AMBLYOSPIZA ALBIFRONS*. Thick-billed Weaver-bird.

P. I found this Weaver in some numbers at certain large pools a few miles east of Chibabava, flying about amongst the tall sedge (*Cyperus* sp.) or settling, sometimes several together, on the smaller trees along the margin. Occasionally a party would fly right away into the scattered open bush, doubtless to feed. Numbers of their nests, inverted ovals of dry grass, neatly woven, and attached, after the manner of a Reed-Warbler or Bishop-Bird, to the tall upright *Cyperus*-stems, could be seen in the deeper pools, but were quite inaccessible owing to the crocodiles.

A breeding male, shot on December 12th, measured 7.9 inches in the flesh; both mandibles of bill were black throughout, the irides brown, the feet dull grey. The stomach contained seeds only. Actually this specimen (No. 1169), in the extent of white on its forehead and the darker brown of its head, approaches very closely to the more northern *A. unicolor*.

17. *PYTELIA MELBA*. Southern Red-faced Weaver-Finch.

Rh., P. I have found this Weaver on one occasion only, on November 24th (near the Chinyika River, Jiluu), when I shot a male, nine feet from the ground in a small thorny *Acacia natalitia*, beside its unfinished nest, a light rounded structure of fine branching grass-heads stripped of their seeds. Bill very bright red, feet vandyk-brown, irides pinkish orange, and lower eyelid, closed, light blue-grey. Length in the flesh 5 inches.

18. *PYTELIA NITIDULA*. Hartlaub's Red-faced Weaver-Finch.

Rh., P. Occasionally seen in Chirinda, and shot, once, in thick bush, on the Kurumadzi in August 1906. On the 2nd of September I secured a male, already in full breeding-plumage, in Chirinda; it was uttering a note much resembling that of *Erithacus swynnertoni*, for which species I should certainly have taken it had the sound not proceeded from fairly high in the trees, whither I have never noted the Robin to ascend. It was being answered by the same note. The bill is black, the gouys and the tip of the upper mandible being strongly tinged with red in the breeding male; the feet are pale brown, in one specimen tinged with yellow; and the irides (in the Kurumadzi specimen, apparently the only one in which they were noted) dark brown. In an immature bird the base of the gouys was pale pinkish and the feet very pale greyish pink.

Length in the flesh (of three specimens measured) from 3.5 to 3.75 inches.

19. *LAGONOSTICTA BRUNNICEPS*. Little Ruddy Waxbill.

P. During my stay at Chibabava in December last, a party of seven, including two cocks, became very tame and friendly; they constantly frequented my verandah for the sake of the waste from my meal-bags, and would boldly enter the hut in search of crumbs. A neighbouring mulberry-hedge was their refuge when disturbed and they also roosted in it regularly at night. Later on I noted this Waxbill at Gezanye, a few miles north of Arucate.

My two specimens appear to belong to the southern form, separated by Capt. Shelley as *L. rendalli* (B. Afr. iv. p. 260). They measured respectively 3.8 (♂) and 3.75 inches (♀), in the flesh. In both the upper mandible was blackish with some red on the sides, and the lower mandible red (carmine-pink) with a median line of black. The stomachs contained seeds and the elytra of a small beetle.

20. *LAGONOSTICTA RHODOPAREIA*. Heuglin's Ruddy Waxbill.

Lagonosticta rhodopareia Reichen. Vög. Afr. iii. p. 200.

Rh., P. More or less plentiful throughout, but especially

in the Jihu, and invariably found singly, in pairs, or, at most, in small family parties, usually in long grass or the high weed-growth of abandoned cultivated fields. I have never noted it in flocks. I had particularly good opportunities of observing these Waxbills in August and again in November, on the Kurumadzi, where, next to *Zosterops anderssoni*, they were the commonest birds, keeping entirely to the high grass-jungle, always in pairs, and continually taking short flights through the grass and uttering a rapid trickling note. They at once took advantage of my cleared paths, feeding all along them and allowing an approach to within five or eight yards when thus engaged. The pairs keep close together, and on one occasion I trapped a male and female simultaneously under the same stone. Localities specially noted: Jihu, throughout; Southern Melsetter, practically throughout; Mafusi's (Umtereni, Maruma, Chikamboge Valley, and the hills to the north of this valley); Northern Melsetter (Lusitu, Nyahode and Haroni rivers); Chibabava, in the neighbourhood of the pools already mentioned; and, at intervals, from Chibabava to Gwaragwara (see Pl. I.). The length of this bird in the flesh varies from 4.25 to 4.6 inches, six specimens thus measured giving an average of 4.46. The upper mandible is dusky grey and the lower paler, sometimes whitish, the whole strongly tinged with blue; the feet are light ashy grey, the irides brown. In the immature bird the upper mandible and the tip of the lower are blackish, the base of the latter pinkish white.

21. *LAGONOSTICTA NIVEO-GUTTATA*. Peters's Ruddy Waxbill.

Rh., P. Fairly common at Maruma and in the Chikamboge Valley, as well as about Chirinda; but particularly plentiful on the Kurumadzi and in other parts of the Jihu, where it goes about singly or in pairs, or, occasionally, in threes or fours, in the grass-jungle, particularly about the edges of the denser bush. Its habits, as also one of its notes, greatly resemble those of *L. rhodopareia*. In length it shews considerable variation, 4.9 and 5.85 being both measurements of males, and the four specimens of which I

have kept a record shew an average of 5·1 inches (in the flesh). Bill, culmen and point black, base silvery blue; feet light blue-grey; irides deep chestnut-brown; somewhat wattled eyelids, blue.

22. *ESTRILDA ASTRILDA*. Common Waxbill.

Chindao: "Chiwanza-buri."

Rh., P. Plentiful throughout the country, usually in winter in large flocks. A few high-veld localities for this species which I happen to have noted specially are: in Northern Melsetter, Melsetter itself and the Nyahode and Lusitu Valleys; in Southern Melsetter, the Inyamadzi Valley and the neighbourhood of Chirinda; Mounts Umtereni and Maruma in Mafusi's country; and the Kurumadzi. In the lowlands I found it commonly in parties in the dense sedge surrounding the pools near Chibabava in December and January, and also in the reeds bordering the river Buzi at Inyamita's.

Six adult birds averaged 4·4 inches in the flesh, varying only from 4·3 to 4·5. An immature bird measured 3·5 inches; feet sepia-coloured.

23. *ESTRILDA INCANA*. South African Grey Waxbill.

P. On August 4th of last year I shot one example out of a small party of these Waxbills at the edge of some dense bush near the Kurumadzi. They were searching the *Leonotis*-flowers after the manner of White-eyes, but in this case, as was evident from their stomach-contents, for the sake of the seeds, not insects. My specimen, a male, measured 4·2 inches in the flesh: its bill was light blue, with the commissure and tip dusky; the feet were blackish, and the irides deep crimson-brown.

24. *ESTRILDA CLARKII*. Orange-breasted Waxbill.

Estrilda clarkei, Shelley, B. Afr. iv. pt. 1, p. 209.

Rh., P. Early in June of last year a flock of a dozen individuals was to be seen daily for some time in the neighbourhood of a small stream near Chirinda, all in winter plumage, while later in the same month I noted a similar party in the

grass-jungle close to the Chinyika River, at a point about ten miles south of Chirinda. Finally, on April 25th, I shot a male in full plumage in the Nyahode Valley, Northern Melsetter. It kept flying in front of me for several hundred yards, constantly settling and feeding in the road, and then rising up and moving on again for a short distance when I caught it up. Its bill was crimson with a dusky culmen, its feet were light vandyk-brown, and its irides orange; length in flesh 3·7 inches. The length of three females was 3·5 each: bill brown-madder, brightest on the sides, culmen dusky; feet brownish grey or pale pink; iris orange or orange-vermilion. The two adult males in my collection are more deeply tinged with orange on the breast than are any of the South African or Nyasaland skins in the British Museum. In this respect they come halfway between this form and typical *E. subflava* from North Tropical Africa.

25. *ESTRILDA ANGOLENSIS*. Blue-breasted Waxbill.

P. A common low-veld species, particularly from Chibabava to the coast and south to the rubber-forests, where I found it going about in pairs in the Kafir clearings. I noticed a bird carrying nesting-material at Bimba's in December. Other localities specially noted were Chibabava (in rubber-plantation and in open wood), Mangunde, Muchukwana, Chironda, Idunda River, Umhlonhlo, and Gwaragwara. The specimen in my collection measured 4·9 inches in the flesh; its bill was light purple with a blackish commissure and tip, and its irides were reddish brown.

26. *ESTRILDA KILIMENSIS*. Kilimanjaro Waxbill.

Estrilda kilimensis, Shelley, B. Afr. iv. pt. 1, p. 238.

Rh., P. This species appears to prefer rank grass in the vicinity of water, the two localities in which I have noted it most frequently being a small swamp near Chirinda and a larger one, rich in weed-seeds owing to its having been under cultivation in recent years, at the head of the Chiya-dombe, a small Jihu stream. It goes about as a rule in pairs or small parties, though I once met with a solitary female, and it not infrequently settles on trees. I have only

once found this Waxbill at any great distance from water. In Northern Melssetter, too, I noted it on one occasion only, a party of three insect-hunting in the branches of a large *Brachystegia*, at an elevation of 6500 feet in the Chimanimani Mountains, in September. Six birds, measured in the flesh, averaged 3·8 inches, with a variation of from 3·6 to 3·9 inches: the irides were always brown in my specimens, usually dark, and never with any trace of red; the feet deep sepia-coloured. As the male, so far as I know, always resembles the female in lacking the black cheeks of *Estrilda bocagii* (Shelley), our local form of this Waxbill is evidently referable to *E. kilimensis*. Its extreme south-eastern range was previously the Nyika plateau in Nyasaland.

27. SPERMESTES SCUTATUS. Hooded Weaver-Finch.

Chindao: "Chinyamdzûruru" (applied to many of the Waxbills, &c.)

Rh., P. By no means an uncommon bird. A flock will sometimes frequent a homestead for months together, living on the waste from the mill or haunting the spot where the dishes are washed. When disturbed these birds rose with a twittering chorus into the nearest trees, but if I halted and remained perfectly quiet they quickly came down again and fed all round, venturing right up to my feet. They are destructive to wheat. I found them very plentiful and very tame on the Kurumadzi, going about in large flocks in the grass-jungle and feeding almost entirely on grass-seeds. The upper mandible of the bill is blackish, the lower pale blue-grey or white tinged with blue; the iris is dark grey-brown; the feet are dusky. Seven specimens measured gave an average of 3·87 inches in the flesh, the extremes being 3·6 and 4 inches.

28. SPERMESTES NIGRICEPS. Rufous-backed Weaver-Finch.

Rh., P. Common on the Kurumadzi in large flocks, and wonderfully tame and fearless. I have on several occasions approached to within a few yards of them, as, huddled side by side, four or five to a grass-stem, they watched me without

the slightest sign of fear or mistrust. On one occasion I took special note that, had I been murderously inclined, I could have bagged more than thirty at a single shot. The Jihu and the grass-jungle surrounding Chirinda are at present my only two localities for this species, but I have little doubt that it will be found throughout the country wherever similar conditions prevail. Five adults gave an average in the flesh of 3·87 inches, varying from 3·75 to 4·12, but an immature bird measured only 3·5 inches. Bill pale blue-grey, the culmen somewhat dusky ; irides deep reddish brown ; feet dusky grey or grey-brown.

29. QUELEA QUELEA. Red-billed Weaver.

Rh. At the end of August of last year I secured five specimens out of a flock which frequented my orchard (near Chirinda) for a few days. All were in winter plumage, and all the five stomachs contained seeds only. The bills were vermilion, the culmen, particularly towards the point, being tinged with dusky. Six specimens measured (including one obtained since in the same locality) gave an average length, in the flesh, of 5·06 inches, with a variation of from 4·9 to 5·2 inches.

30. PYROMELANA ORYX SUNDEVALLI. Northern Red Bishop-Bird.

Pyromelana sundevalli, Shelley, B. Afr. iv. pt. 1, p. 98.

A dense mulberry-hedge beside my hut at Chibabava was occupied by a party of these birds. A male (presumably) would frequently utter a song like the rattling of a steel watch-chain, when the females would immediately flock to the spot, perching on the twigs all round, while he himself remained concealed in the foliage. Usually, however, they were to be seen feeding on the open ground along the hedge, apparently chiefly on insects, and moving either at a walk or by a succession of rapid hops ; once a female jumped eagerly aside after a good-sized grasshopper. I also occasionally saw them in the open woods and near the river, while at a series of large sedge-bordered pools a few miles from Chibabava they were particularly plentiful, and the

males, flashing about in the sunshine and "rattling their little chains" amongst the sedge, were one of the characteristic features of the spot. Though it was already the end of November many of them appeared not to have yet completed the change to breeding-plumage. Two males measured 5.1 inches each in the flesh and two females 4.8 each. The stomachs examined contained seeds, beetles, a spider, and other insects.

31. PYROMELANA FLAMMICEPS. Fire-crowned Bishop-Bird.

Pyromelana flammiceps, Shelley, B. Afr. iv. pt. 1, p. 104.

I am not sure whether it is this or the preceding species that is the common Red Bishop-Bird of the Gazaland highlands. I noted *P. flammiceps* in the reeds bordering the Buzi at Inyamita, and I have in my collection two males: one shot in the Chikamboge Valley on August 20th, 1899; and a second which was brought to me at my Gungunyana homestead in May 1906, together with a number of other live seed-eating birds which had been trapped by a native in the neighbourhood.

This species has not previously been recorded from further south than the Zambesi River, where it was obtained by Kirk, Alexander, and Stoehr.

32. PYROMELANA CAPENSIS XANTHOMELÆNA.

Chindao: "Chikwea" (applied also to the Red Bishop-Birds).

Rh., P. A species common enough throughout all the portions of Gazaland which I have yet visited, high veld and low, including the lower slopes of the Chimanimani Mountains, where I found males in intermediate plumage at the end of September. In the breeding-season the male may often be seen perched alone on the top of some small tree. This species, like so many others, shews a decided preference for grass-jungle, but even where this is not available it by no means confines itself to the neighbourhood of water, as in parts of Mashonaland. The nests are commonly attached to the stems of rank reed-grasses (*Sorghum nutans* and a *Pennisetum*), clumps of which commonly grow on ant-

heaps or even, with subsoil moisture, on the sides of hills; they are large for the size of the birds. One in my collection, taken at Gungunyana, measures about 7·5 inches in length by 3·5 in diameter, and is a handsome inverted oval, domed and coming to rather a point at the top, with the opening, 1·7 deep by 1·3 inches across, about halfway down. It was slung by its front to two thick upright reed-stems, one just on each side of the opening, and was woven throughout with wonderful neatness from a clean and fairly tough whitish bark-fibre, in appearance much like that of our common *Triumfetta*, which was fairly abundant in the vicinity of the nest. It contained only one egg, pure white, with spots and blotches (somewhat massed at the larger end) of rather deep reddish brown, and measured 22 by 15 mm.

33. *COLIOPASSER ARDENS*. Red-collared Widow-Bird.

Singuni: "Isakabuya."

Rh., P. One of our commonest birds in many parts of Melssetter and the Jihu. In the latter district I found it going about in the grass-jungle in large flocks, all in winter plumage, in August, and feeding especially, like so many others, at the *Leontotis*-clumps. The male in breeding-plumage shares the habit of *P. xanthomelena* of remaining perched conspicuously on the summit of some isolated *Parinarium* or other tree in the open grass-veld. In full breeding-plumage my males have varied from 12·25 to 15·75 inches in the flesh. Bill of female and non-breeding male, upper mandible brown with a dusky culmen, lower pale greyish. Of nine stomachs the contents of which I have noted, three contained insects (beetles and a larva) and the remainder seeds only.

34. *VIDUA PRINCIPALIS*. Pin-tailed Widow-Bird.

Chindao: "Chinyampimbiri."

Rh., P. Found throughout the high veld, and noticed in flocks, entirely in winter plumage, on the Kurumadzi in August; also, in December, at Chibabava and at one or two points between that place and the coast. The females in my collection varied from 5 to 5·4 inches in the flesh, and a

breeding male measured 12.25 inches. Bill in the non-breeding male blackish tinged with red, most strongly on the basal half of the gonys, and in the female light brown; feet pale flesh-coloured in the hen, black in the breeding male.

35. VIDUA PARADISEA. Paradise Widow-Bird.

Rh. I noted one of these striking Widow-Birds on the hills near the upper Buzi, 3500 ft., early in April of last year, and another in the bush to the south of the Umvumvu on the 30th of the same month; the latter was flying high above the trees with short forcible undulations, quite a long and strong flight for a bird with so disproportionate a tail.

36. HYPOCHERA FUNEREA. Black Widow-Bird.

Rh., P. I noted this Widow-Bird several times during my stay in the Jihu in August, usually in flocks of from twelve to twenty individuals, of which from one to four would be in the full black plumage. It is perhaps noteworthy that its nearest relatives, *Vidua principalis* and *Coliopasser ardens*, were at that time to be found only in winter dress in the same locality. It was probably breeding, as the testes of my specimens were well developed. Occasionally a solitary male, in the black plumage, would join the path-feeders and shew considerable tameness, though I found the flocks (which were feeding in old cultivated ground, and would rise into the branches of large and, preferably, bare trees on being disturbed) very unapproachable. Length in the flesh of the breeding male 4.85 inches; bill white (in one specimen tinged with pinkish grey); feet whitish tinged with pink.

37. PETRONIA PETRONELLA. South-African Rock-Sparrow.

Rh., P. I shot one of these birds at Melsetter on September 24th. It was perched on the top of a small tree, uttering a loud, ringing chirrup, rapidly repeated for a long time on end: "Cheu-cheu-cheu," &c. I subsequently came across the species again on the Kurumadzi, and on December 19th secured a third specimen at Chironda, on the lower

Buzi. The feet in each case were dull leaden grey; the bill, upper mandible and point of the lower dull sepia-coloured, the rest of the gonyes whitish or pale pink. Two stomachs examined contained larvæ and beetles only, no seeds. Length in the flesh 6·5 inches.

38. *POLIOSPIZA GULARIS*. Streaky-headed Seed-eater.

Rh. On the 12th of July, 1906, I shot one out of a party of five or six of these Seed-eaters which had settled in the branches of a young *Croton* in my garden. Odendaal has since sent me a further specimen shot by himself in the same locality.

39. *SERINUS SULPHURATUS*. Large Yellow Seed-eater.

Rh. Mr. D. M. Stanley writes to me that a Canary obtained by him at Helvetia has been identified by Mr. W. L. Sclater as *Serinus sulphuratus*.

40. *SERINUS SHARPIL*. East-African Yellow Seed-eater.

Serinus sharpei, Reichenow, Vög. Afr. iii. p. 266.

Rh., P. This is one of our commonest birds throughout Southern Masetter and the Jihu. I have also noted it at various points in the Mafusi district, in the Lusitu and Nyahodi valleys in Northern Masetter, and at an elevation of about 6500 ft. in the Chimanimani Mountains, where, in September last, I found it frequenting the *Proteas* and *Brachystegias* in some numbers. In the neighbourhood of Chirinda it appears to be particularly partial to sunflowers or old weed-covered lands, and on the Kurumadzi to the *Leonotis*-clumps, perching below the whorls of bracts and extracting the seeds; both there and elsewhere it goes about in parties or flocks, sometimes of considerable size, during the winter months. This Canary is a very early songster, commencing sometimes before dawn.

I found a nest on the 4th of September containing three recently laid eggs. It was four feet from the ground in the middle of a bunch of young custard-apple shoots (*Anona senegalensis*), a flimsy structure of small roots and bents of *Asparagus angolensis* and other herbs, lined somewhat scantily with the soft downy leaves of a common everlasting

(*Helichrysum nitens*). It measured externally 3.25 inches in diameter and 2.7 in depth, the cup itself being 2 inches across and 1.75 deep. The bird always left the nest at once on being approached, but returned immediately the intruder commenced to move away. The eggs were pure white, with small spots and thin short streaks of deep sepia, some of them practically black. Three of my specimens measured from 5.6 to 5.9 in the flesh, and one that was abnormally small 5 inches only. Bill horn-brown, the gonys paler and tinged with pink or yellow; iris brown; feet dusky brown or blackish.

This species was previously supposed to range from the Victoria Nyanza only to the Zambesi, where Kirk obtained a specimen at Tete.

41. *SERINUS MARSHALLI*. Marshall's Seed-eater.

Serinus marshalli, Shelley, B. Afr. iii. p. 201.

Rh. A single specimen of this Canary has been secured by Mr. Stanley at Helvetia, in the Mafus country; it was identified by Mr. W. L. Selater.

42. *SERINUS ICTERUS*. Eastern Yellow Seed-eater.

Rh., P. One of our commoner birds. In September I found it in some numbers at Maruma, where, with *S. sharpei*, it was frequenting the coffee- and banana-plantations; also at Mount Umtereni and in other parts of Mafusi; and, in July, I found it going about in very large flocks both in the upper Jihu and on the Kurumadzi. Here, when busily feeding amongst the *Leonotis*-stems, individuals repeatedly allowed me to approach to within six or seven feet, and even then would move on only a few yards when disturbed. Solitary birds may sometimes be seen sitting alone in the higher branches of a tree, piping continually "Tsiyam-tsiyam-tsi! tsiyam-tsiyam-tsi!" in a most monotonous fashion. In common with *S. sharpii*, this species is very destructive to the wheat- and rice-crops. In the lowlands I found it to be common at Chibabava and thence to Arucate, as well as in the Kafir clearings and other more or less open

spaces in the Madanda forests. My seven specimens of this Canary averaged 4·5 inches in the flesh, with a variation of from 4 inches to 4·9.

43. *EMBERIZA FLAVIVENTRIS*. Golden-breasted Bunting.
Chindao: "Chiherchere."

Rh., P. I have noted this Bunting in the following localities:—Northern and Southern Melsetter, wherever open woods occur; the upper Jihu; Maruma and the Chikamboge Valley; and the Mwangezi River. I usually found it searching for food on the ground, whence it rose into the nearest tree on being disturbed.

44. *EMBERIZA MAJOR ORIENTALIS*. Shelley's Bunting.

Rh. I shot a male of this handsome Bunting in the Lusitu Valley, Northern Melsetter, on September 19th, and my assistant, Mr. David Odendaal, has recently sent me an immature bird from the neighbourhood of Chirinda. I expect it to prove nearly as common as the preceding species, as I feel sure that I have passed it by on several occasions. Length in the flesh (of adult male) 6·6 inches. The stomach contained a spider, a smallish bug, and other insects; no seeds.

45. *FRINGILLARIA TAHAPISI*. Rock-Bunting.

Rh. Southern Melsetter, particularly near Chirinda, and the upper Jihu are at present my only localities for this species. A stomach examined some time ago contained seeds, beetles, and caterpillars.

46. *MIRAFRA AFRICANA*. Rufous-naped Lark.

Rh. I saw several of these Larks on the hills between the Lusitu and Nyahode Rivers in April last, perching singly on the upper twigs of a common shrubby *Smithia* with scented foliage.

47. *MIRAFRA CHENIANA*. Latakoo Lark.

Rh. I shot a female of this species on the 18th of September near Helvetia homestead on a recently-burnt patch of grass, at an altitude of nearly 4000 ft. It was engaged in flying a short distance and settling, flying up again and

settling, and so on. It measured in the flesh 5·75 inches, and its stomach contained beetles, a portion of a Mantis egg-case, and some very small seeds.

48. *MIRAFRA FISCHERI*. Fischer's Lark.

I saw four or five of these Larks early one morning in December 1906 when crossing the low stony hills near Muchukwana's (on the lower Buzi), recognising them by their peculiar crackling flight. A male shot on June 2nd was already breeding, to judge by the development of the testes. Bill brown above, pale pink below; feet brownish pink.

49. *TEPHROCORYS CINEREA*. Red-capped Lark.

Rh. Stanley and I, in September 1906, found numbers of these Red-capped Larks, singly or in pairs, on the higher hills all the way from the Chipetzana River to the Lusitu, wherever the grass had been burnt. They were taking short flights into the air, singing and settling again, running through the newly-sprung grass in search of food, or standing on small ant-heaps with frequent Pipit-like jerks of the tail. Two males which I secured measured respectively 6·2 and 6·35 inches in the flesh; base of gonys dull white, rest of bill blackish; irides greyish brown; feet brownish white. Both stomachs contained seeds and grit only. Odendaal has since (early in last May) secured a specimen near Chirinda.

All three examples correspond closely to Reichenow's description of *T. c. saturatior*, though an examination of the northern specimens in the British Museum hardly tends to confirm the validity of the subspecies.

50. *MACRONYX CROCEUS*. Yellow-throated Long-claw.

Rh., P. Throughout Northern and Southern Melssetter, nearly always in pairs; noticed in the low veld on the Umtefu River, and again near the coast. It may often be found frequenting cultivated fields.

When flushed it usually flies to some small tree close by, on or near the top of which it perches; in taking longer flights it often introduces quite an attractive stroke, which

reminds one of the action of the legs in swimming, suddenly spreading its wings out straight and stiff to their fullest extent and repeating this stroke many times in succession, sometimes for a whole flight.

Four birds gave an average of 8·1 inches in the flesh, ranging from 8·12 to 9·1.

51. *ANTHUS LINEIVENTRIS*. Stripe-bellied Pipit.

Rh. Like the Rock-Thrushes, this Pipit is comparatively plentiful in the "Munzshanshe" (*Uapaca*) groves which cover the northern shaly slopes of Chirinda, and resembles them further in the fact that it is usually found feeding on the ground and flies straight up into the nearest tree on being disturbed. Iris rather light umber-brown; upper mandible of bill sepia or vandyk-brown, lower pale grey, sometimes tinged with pink; feet pale brownish or purplish pink. Two males measured 6·75 and 7 inches, respectively, in the flesh.

52. *ANTHUS TRIVIALIS*. Tree-Pipit.

Rh. A regular summer visitor. It had not arrived on November 15th, when I left home; but I found it to be very plentiful in the neighbourhood of Chirinda on my return thither from Beira on January 10th of last year, though I had seen none in the low veld. The birds were mostly in pairs, running about over the cultivated ground in search of insects and frequently taking to my Eucalypt shelter-belts, where, on one occasion, I found a pair noisily mobbing a green tree-snake, in company with *Pycnonotus layardi*, *Cinnyris chalybeus*, and other small birds. They left us in March. These Pipits are easily trapped in cultivated ground by means of dead-falls baited with cockchafer-larvæ. Five birds, measured in the flesh, gave an average of 6·69 inches, maximum and minimum 6·8 and 6·5 respectively.

53. *ANTHUS RUFULUS*. Lesser Tawny Pipit.

Rh. Common, usually in pairs, in cultivated ground throughout the high veld of Northern and Southern Melsetter. I found it in Melsetter itself in September, and in the same month near the top of Mount Pene (7000 ft.), where

a pair were running about on the newly-sprung sward, and perching continually on the scattered boulders with Wagtail-like movements of the tail. Birds, measured in the flesh, varied from 6.25 to 7 inches. Bill, upper mandible dusky brown, lower ochreous or pinkish white, brown at tip; iris dark brown; feet pale brown, tinged with pink or yellow.

54. *MOTACILLA VIDUA*. South-African Pied Wagtail.

Rh., P. Not an uncommon species along river-banks, and on open roads or other cleared grounds in the vicinity of water. I have met with it at various points in the Melsetter district, as well as on the lower Inyamadzi and in the Ceara rubber-plantation at Chibabava. A stomach examined contained beetles and larvæ. Length in the flesh (of one individual) 8.12 inches.

I have also noticed a yellow Wagtail, probably either *Motacilla flava* or *M. campestris*, on the upper Buzi, near the Chipinga police-camp.

55. *MOTACILLA LONGICAUDA*. Grey-backed Wagtail.

P. I watched a pair of these attractive Wagtails for some time at certain rapids on the Kurumadzi on August 7th, and finally shot the male. They would fly up the river with a long graceful flight, uttering all the time a pleasant call, and settle on the rocks in mid-stream, searching there for food and keeping up the usual Wagtail-motion of the tail. I only once saw one settle on a reed. I observed another pair on the Inyamadzi in September, and a third on the Mwangezi at the end of November. My specimen measured 7.85 inches in the flesh. Feet light grey. The stomach contained small insects.

56. *PROMEROPS GURNEYI*. Natal Long-tailed Sugar-bird.

Rh. Mr. L. C. Meredith, of Melsetter, first informed me that a Sugar-bird was common in the scrub-grown kloofs in that neighbourhood, and on September 24th I secured three specimens. Subsequently I saw a number of others, the flowers of *Faurea speciosa* and of a *Protea* (near *P. abyssinica*)

evidently forming the chief attraction. The birds usually utter their loud piping call perched on the top of some tree or bush; it consists of three or four ascending notes ending with the repetition, several times in succession, of the highest, and, though less liquid, reminds one strongly of one of the calls of *Laniarius bertrandi*. Two males, both evidently breeding, measured in the flesh 9·5 and 11·5 respectively, and a female 9·25 inches. In every case the stomach was nearly empty, the total contents of the three barely amounting to the *débris* of half a dozen small flies.

This Sugar-bird was previously known only from the Transvaal, Swaziland, and Natal, this being its first record north of the Limpopo.

57. *NECTARINIA FAMOSA*. Malachite Sun-bird.

Rh. I noted three males of this handsome Sun-bird in the kloofs at Melsetter during September, and was informed by Mr. Meredith that it was quite common in the neighbourhood. One which I secured measured 10·8 inches in the flesh, and its stomach contained a fly and a small pupa. A female shot near the town on the 23rd of that month measured 6·12 inches in the flesh, and its stomach-contents were a beetle and several small flies.

58. *NECTARINIA ARTURI*. Arthur's Sun-bird.

Nectarinia arturi Selater, Bull. B. O. C. xix. p. 30.

Rh., P. I have not yet found this Sun-bird in the Jihu, though it may be met with throughout the higher veld and is particularly plentiful in portions of Northern Melsetter, as at the township itself, the Haroni, &c., and on the hills of the Mafusi portion of the southern district. It is especially fond of frequenting the dense clumps of *Erythrina Humeana* which are scattered over the grass-hills, particularly near Mafusi, and in that portion of the district one may commonly see in October two or three pairs of this bird at a time, usually accompanied by *Cinnyris niassæ*, or sometimes by *C. chalybeus*, *C. kirki*, or *C. gutturalis*, probing the magnificent scarlet flowers with which these trees blaze forth at that time of year. Another favourite is *Leonotis mollissima*,

and, in the portions of the district which these birds most frequent, it is rare to find a really good clump of this plant unattended by at least one pair of *Nectarinia arturi*. In the neighbourhood of Melsetter itself, where I found them particularly numerous in the scrub-grown glens during my visit in September last, they appeared to be specially attracted to the flowers of *Faurea speciosa*, then nearly out of bloom; but this was doubtless not the only attraction, the whole kloofs being ablaze with flowers of various kinds at that time of year. In spite, however, of the fact that its wants are already so liberally supplied by nature, there is no Sun-bird, with the possible exception of *C. niassæ*, which so constantly frequents the homesteads of the settlers as does the present species in the more favoured portions of the district. I may take Wolverhampton, Mr. Gifford's farm near Mafusi, where I spent some days in April, as a good example. Here *Nectarinia arturi*, if not actually the commonest, is at least the most conspicuous and frequently seen bird that haunts the orchards and plantations, and its loud oft-repeated "pea-view" note may be heard all day long in every direction; the banana-walks are never without one or more pairs probing the great flowers for honey and insects, and Mr. Gifford informed me that when a small patch of French beans was in flower it was seldom attended by less than half a dozen of these Sun-birds at a time. *Grevillea Banksii*, an introduced tree, is also a favourite, and I have found the birds frequenting peach-blossom in September. They usually remain in pairs throughout the year, though occasionally I have noticed two males going about together, and sometimes one solitary male. I have frequently seen them holding on by the feet to a vertical twig, preferably when dry or more or less bare, on the top of some prominent object, such as a large orange-tree, a gum-tree, or sometimes the topmost leaf of a banana; thence they will dart off at intervals with a rapid circling flight in pursuit of a passing fly or other insect. They have several notes, of which two, a loud piping repeated call and a short warbling song of no great power, appear to be

uttered chiefly in spring. The former I have also heard once in April, when it was uttered by a male in a moment of great excitement. The commonest, however, is a loud pleasant "pea-view ! pea-view !" (as it may be rendered in English spelling), which forms the usual call-note and is constantly used by both sexes. I have found altogether five nests of this Sun-bird, from early in September to the end of April, in which month during the present year I found two nests with young birds suspended from the drooping twigs of Mr. Gifford's Eucalypts, twelve and twenty-five feet from the ground. In the veld the vicinity of water appears to be preferred, and the nest is suspended from some leafy twig, to which it is sewn down the back for a more or less considerable portion of its entire length, but no great attempt is made at concealment. The following description of a typical nest, taken near Chirinda on the 4th of November, is from my diary :—"The nest was placed nine feet from the ground, at the head of a vertical shoot of *Mæsa lanceolata* overhanging a stream, an oval in form with the larger end down. The cup was *very* deep, the opening being near the top and protected from rain by a projecting porch" (this varies, being in one case almost lacking) "of fine grass-heads stripped of their seeds and intermixed with downy pappi, usually those of the 'Rukangazi' (*Cryptostegia oblongifolia*). The nest in general is formed of a thick matted felt of these creamy-white pappi embraced by a comparatively scanty outer shell of fine grass-stems and soft dry grass-blades, intermixed with a few fine black fern-roots and three or four dry leaves of *Mæsa* and of *Pterocarpus melliferus*." The glossy brown *ramenta* from the bark of a large tree-fern (*Cyathea Thomsoni*) also occasionally form part of the lining, and I once noted a few feathers as well (in the general material, not the lining), one at least of which, a long tail-feather, belonged to the male bird. Shredded fibres from the bark of some herbaceous plant (probably *Triumfetta*) and scraps of silky cocoons also entered into the construction of one of the nests. "The male became greatly excited at my approach,

flying about with a piping 'tiyu! tiyu! tiyu!' The female was less demonstrative, and afterwards, on my going into hiding in order to watch the birds, occupied herself for quite a long time, quietly perched on a branch beside the nest, in carefully preening the whole of her plumage. The nest contained one egg only, white and slightly chalky in texture, with a number of small deep sepia spots scattered over the larger end, chiefly in the form of a zone, and larger and slightly suffused underlying spots and blotches of brownish grey." One, so far as I know at present, is the full clutch. Measurements 20 by 13.5 mm.

On another occasion, at a nest containing one young fledgling, the hen bird was more daring than the cock, visiting the nest boldly as we watched, while her mate flew restlessly about from tree to tree, uttering the usual note. The youngster had a good appetite, opening its bill, orange-yellow within, and shaking it rapidly and excitedly from side to side with a repeated sibillant note. We attempted to feed it ourselves, but, owing to the length of the bill, this was by no means easy, flies, &c., which were taken by the tip failing to find their way to the gullet; the old bird inserts its bill right down that of the nestling.

The male of this Sun-bird differs from that of the nearly allied *Nectarinia kilimensis* not only in its purple and bronze, instead of gold, green, and blue reflexions, but to a slight extent in the form of its skull. In all the greener specimens of *N. kilimensis* in the British Museum the top of the skull is practically on the same plane as the bill, whereas in *N. arturi* there is a distinct rise from the base of the culmen, rendering that point appreciably easier to locate. This hollow also occurs to some extent in such skins from Uganda and Nyasaland as are intermediate in their colouring, of which the actual type of *N. kilimensis* is one. In length of culmen, wing, and tarsus the two forms are very near one another, though, judging from the six specimens of *N. arturi* with complete tails in my collection, in this respect the Gazaland species seems to fall short of the other, averaging

4·54 inches, with a variation of 4·35 to 5·35; of thirteen skins of *N. kilimensis*, five males measured in the flesh averaged 8·65 inches, ranging from 8·3 to 9.

The breeding female resembles that of the northern form, but the yellow of the under surface appears to be duller and more ochreous. Length in the flesh 6·2 inches.

A nestling from Mr. Gifford, just able to fly, and one of my own, not quite full-fledged, are strongly tinged with olive throughout the upper surface and chest; the abdomen, particularly in the latter, is of a brighter yellow, and more nearly gamboge than in the female. The throat is mottled grey and whitish with a slight tinge of yellow on the sides, and the eyebrow of the female is represented only by a small yellowish streak. The outer tail-feathers are margined externally with white. Culmen 1·02 and 0·8; wing 2·3 and 1·95; tail 1·35 and 0·7; tarsus 0·63 and 0·6 inches. The bills of the nestlings were brownish grey, their feet leaden grey, and irides brown.

59. *CINNYRIS MICRORHYNCHUS*. Short-billed Sun-bird.

Cinnyris microrhynchus Shelley, B. Afr. ii. p. 55.

P. In the low veld of Gazaland this little Sun-bird appears to take the place occupied by *C. niassæ* in the mountains. At Chibabava I found it common in pairs, in December and January, both in the open woods and amongst the rubber-trees in the plantation; and I was informed that its range extends quite to the coast, though I do not appear to have noted it myself far to the east of Chibabava. A male which I measured was 4·65 inches in the flesh, and of three stomachs examined two contained portions of small flies, the third *nil*.

60. *CINNYRIS LEUCOGASTER*. South-African White-breasted Sun-bird.

P. I noted one of these Sun-birds at Bimba's, between Chibabava and Arucate, on the 7th of December. It was feeding in company with a pair of *C. microrhynchus*.

61. CINNYRIS VENUSTUS NIASSÆ. Nyasan Sun-bird.

Cinnyris venustus niassæ Reichenow, Vög. Afr. iii. p. 474.

Rh., P. Our commonest high-veld Sun-bird excepting in the Jihu, where, though still plentiful enough, it yields first place to *C. kirki*. I have not found it in the lowlands, and believe its range to be bounded to the east by the Sitatonga Hills and Chimanimani Mountains, and by Mount Singuno, or, at most, the Umswirizwi, to the south. Actual localities where noted are Northern and Southern Melsester, throughout; the Kurumadzi, Zona and Chinyika Rivers in the Jihu; Maruma, Wolverhampton and the Chikamboge Valley in Mafusi's; and the lower Inyamadzi Valley: say from 2000 to 6500 feet. There seems to be a probability that very slight local migrations of these birds occasionally take place, as Stanley wrote to me early in July stating that the Sun-birds in his neighbourhood had completely disappeared. I have never noted such an occurrence myself.

This Sun-bird breeds with us throughout the year. I have found a nest containing young birds early in July by a stream where frosts were of nightly occurrence, and during August have noticed recently fledged broods going about with their parents. The nest is of the usual Sun-bird type, narrower at the top than below, and slung from an upright stem or drooping twig, or placed in the centre of a thorn-hedge a few feet from the ground. That in my collection is composed entirely of grass-blades, both broad and narrow, and fine heads and stems of grass, the latter, stripped of their seeds, being brought forward together over the entrance to form a brush-like porch. Dry leaves and vegetable down are woven into the general structure, and the interior, including the porch, is scantily lined with the latter. The threshold is neatly covered with spiders' webs, which, however, are not much in evidence elsewhere in the construction. The total depth, externally, is 5·1 inches, the depth from the opening downwards 2·5 inches, front to back 2 inches, diameter of entrance 1·3 inch. Both birds become much excited when a nest is approached, uttering a continually-repeated "Tshwee, tshwee, tshwee, &c." However, as is so

often the case, the female shews greater boldness than the male, and in the case of the nest I have just mentioned as containing young, ended by visiting them repeatedly in my presence, her mate continuing to fly anxiously backwards and forwards.

Cinnyris niassæ is evidently not particular as to its feeding-ground, for I have noticed it in every kind of country to be found within the area defined above: at Melsetter it not only frequents the sheltered glens, but may be found on the exposed hill-sides up to at least 6500 feet amongst the wind-stunted *Brachystegias* and *Myricas* of the locality; during the spring, at all events, the blossoms of the first must supply the birds with sufficient insect-food, while at other seasons they doubtless fall back on the *Proteas*. Five males, measured in the flesh, averaged 4·55 inches, ranging from 4·34 to 4·8 inches, and the same number of females averaged 4 inches.

This species was met with by Alexander on the Zambesi, the southernmost locality previously known.

62. *CINNYRIS CHALYBÆUS*. Lesser Double-collared Sun-bird.

Rh., P. This Sun-bird has been unusually plentiful, in pairs, in the neighbourhood of Chirinda throughout the past year, especially at Cannas, peach-blossoms, and the flowers of *Grevillea Banksii*. Two fine bushes of the latter at Dr. Thompson's house near Chirinda are never without several of these Sun-birds, in company, usually, with *C. niassæ* and *Anthothreptes collaris*. I found them common in the kloofs at Melsetter in September, and on the upper Lusitu in the same month. They also occur in the Mafusi district. During March, when my rubber-trees (*Manihot Glaziovii*) were in full bloom, several of these birds frequented the plantation daily, and on the 22nd of that month Odendaal shot a male there the stomach of which I found to be greatly distended by a ball of elastic brown rubber. Evidently, in attempting to extract the honey from the *Manihot*-flowers, the bird had been unable to avoid pricking the flat discs, and

had consequently swallowed a considerable amount of latex. It could not have lived much longer in the state in which I found it.

Two eggs in my collection measure 16.5 by 12 mm. each, and are pale grey in ground-colour, finely and uniformly mottled with a slightly darker shade of brownish grey. Eight males, measured in the flesh, give an average of 5.25, with a range of from 5.1 to 5.45 inches. A larva, small beetles and flies, and other insect-remains composed the contents of the nine stomachs examined.

The bird referred to in my last paper as *Cinnyris afer* ('Ibis,' 1907, p. 42) appears actually to be intermediate between *C. afer* and *C. chalybaeus*. Culmen 1 inch; wing 2.4; tail 1.8; tarsus 0.64; red breast-band 0.52. Length in the flesh 5.5 inches. A similar male, recently obtained by Odendaal near Chirinda, also measured 5.5 inches in the flesh; culmen 1.1; wing 2.5; other measurements as above.

63. CINNYRIS GUTTURALIS. Scarlet-breasted Sun-bird.

Rh., P. I came across this handsome species on the Kurumadzi several times during the first half of August last year, and have also noted it occasionally in the upper Jihu. In Southern Melsetter, though not one of our commoner species, it is fairly generally distributed, and not infrequently, during the past year, visited the "silky oaks" (*Grevillea Banksii*) which have been planted near Chirinda. Since my return to England, Odendaal has sent me several specimens, including males in immature plumage, which he obtained in that locality during May. In Mafusi's country I have noticed it in the Chikamboge Valley as well as on the surrounding hills, where I found it breeding at 4000 feet in September last, the nest being conspicuously placed in the branches of a rubber-tree. At least one pair, or sometimes more, of these Sun-birds are always to be seen in the banana- and rubber-trees at Maruma, where they are fond of hanging completely upside down like Tits, often both together, their feet grasping the bases of the flowers while they systematically probe the

long tubes, one after the other, for insects and honey. The male's note is a loud "Tsiyi-tsiyi-tsiyi-tsiyi-tsi," or, occasionally, a more liquid "Tyu-tyu-tyu, &c." On two occasions I noted a pair of these birds at Chibabava, in the low veld, during December and January last. Three males in immature plumage average 5.76 inches, and a breeding male measured 6.1 inches in the flesh. The stomach-contents were small beetles, flies, and a larva.

64. CINNYRIS KIRKI. Kirk's Sun-bird.

Rh., P. On my visits to the Jihu during the past year I found this to be by far the commonest Sun-bird in the dense grass-jungle of the lower elevations (2000 ft.). I have also frequently noticed it in the upper Jihu and the Chikambo Valley, but in the yet higher portions of the district it can hardly be described as one of our commonest Sun-birds, though I have come across it not infrequently at the flowers of the Proteas and Grevilleas.

I have found only two nests of this Sun-bird; they were far more neatly and compactly built than those of either *C. gutturalis* or *C. chalybæus*, and differed from all that I have found of those two species in the fact that they were in each case completely suspended from a drooping twig and without any side support whatsoever. One of them was very cleverly concealed behind the leaves of its supporting twig, while the other, strange to say, was within five yards of a tree containing an occupied nest of *Aquila wahlbergi*. Each nest was about ten feet from the ground, and was composed almost entirely of soft dry grass-blades, more or less fine and cleverly interwoven, intermixed with vegetable down; the latter material, with the addition, in one case, of one or two feathers, also formed the lining. The roof was built internally to a large extent of very fine grass-stems, which acted as a support to the dome, while the outside of the nest was ornamented with large quantities of lichen and a few small pieces of bark and wood, as well as one or two fine twigs. The whole was neatly braced together with spiders' webs, which, however, were not nearly so much in

evidenee as in the nests of *C. chalybæus*. The clutch consists of three eggs, varying from 17 to 18 mm. in length, and from 12 to 12·5 in breadth. They are very pale greyish brown or greenish grey in ground-colour, in one clutch mottled, in the other clouded streakily and longitudinally with a slightly darker shade of olive; this colour in each case almost completely hides the ground-colour (as in the eggs of the Sedge-Warbler), and in the former is particularly noticecable as a faint zone round the large end. The parent birds in both instances flew straight away from the nest and did not reappear, in this again differing from the two preceding species, which usually shew not a little excitement.

Nine of these birds gave an average in the flesh of 5·22 inches, with a range of from 5 to 5·5 inches.

65. CUNYRIS OLIVACEUS. Olive-coloured Sun-bird.

Rh., P. With us this is almost a purely forest-species, for though we may find it feeding on *Leonotis* along the outskirts of dense bush or forest-patches, and though it has taken to following my thorn-hedges and visits my banana and Eucalypt plantations, I have never found it at any great distance from thick bush, inside which, and especially in Chirinda and Chipete, it is often exceedingly plentiful. I have only twice noticed it in the Jihu, each time at the flowers of *Leonotis mollissima* near the denser bush of the Kurumadzi (this was early in last August), and I have also noted it in the Chikamboge Valley. It is an active little bird, seldom still for an instant, and easily distinguishable from the female of any other species, if only by its sharp constantly-uttered "cip-cip!" (Zulu "c" *), which is also uttered in flight. It is most tuneful, and on entering Chipete on any fine evening after sunset, particularly during the breeding-season (though I find that it does continue to sing throughout the year), I often enjoy a delightful chorus of its loud warbling songs, proceeding from the higher branches in every direction.

* "c" and "q" throughout these notes, whether in native names or in the calls of birds, represent peculiar Zulu click-sounds, the former soft, the latter sharp like the crack of a whip.

In the morning, whilst feeding, its song is more intermittent, a few notes only being uttered at a time; then with a "cip-cip-cip" it will take a flight after an insect or to another twig, then come a few more notes and another flight, and so on. In the spring I have sometimes heard the male employ a loud frequently-repeated piping note as he chases the female in and out of the higher branches. As a general rule the bird may be found in the greatest numbers amongst the undergrowth of saplings and shrubs; of these, *Achyrospermum Carvalhi* and *Macrorungia pubinervis*, both with brilliant scarlet flowers, are particularly attractive to it. In feeding at these flowers or at those of the *Leonotis* it grasps the stem below the flower-head, and, without moving its feet, darts its bill rapidly into each flower in succession until it gets about halfway round, when it shifts its feet and does the other half; while thus engaged it frequently utters a quiet "chürr," but if an intruder comes suddenly or roughly into sight it flies off a few yards with its usual "cip-cip" note, though its full term of abuse is a loud "Chürrr-chüwe-chüwe-chüwe-chüwe-chü-chü-chü!" (French "u" throughout).

I have already described the nesting-habits of this bird, but as I have this season examined between twenty and thirty more of its nests, most of them containing eggs, it may be well to add a few further details. The egg practically does not vary at all: in only two cases have I found anything but the pale bluish or greyish-white ground-colour and sepia and grey markings already described; in these two clutches the ground-colour was white and the markings consisted of fairly numerous short streaks and spots of light grey only. In the more ordinary type the sepia markings are sometimes so dark as to be to all intents and purposes black. I have never found an egg approaching the type of coloration described by Layard and quoted by Captain Shelley ('Birds of Africa,' vol. ii. p. 124). The nest varies more. It always hangs loose from some drooping twig, usually in *Chirinda* that of *Sclerochiton Harveyanum*, a shrub with small leaves which in some parts forms the main undergrowth. It is placed

sometimes as little as eighteen inches from the ground, and I have so far found only one placed as high as six feet. This particular nest was further notable for the fact that it had been successfully and fairly firmly attached to the drooping end of a long slippery *Dracæna*-leaf, and that its "tail," instead of proceeding as usual from below the opening, was attached to one side of the nest and thence thrown loosely over another leaf, thus taking some of the weight of the nest off its somewhat insecure attachment and pointing to considerable intelligence and adaptability on the part of the bird. This tail, when present, may be composed of grass-blades, twigs, roots, moss, leaves, strips of bark, or two or more of these materials combined, and varies a good deal in length, bulk, and construction, as do also the strips of material (usually but not always long, and composed as a rule of moss) which attach the nest to the twig. The materials employed for the fabric in general include small twigs and grasses, lichen, moss, leaves (usually of a smilax, *Behnia reticulata*), dry stems of "false maiden-hair" (*Thalictrum rhynocharpum*), and other herbaceous plants and down. Occasionally this down, consisting in *Chirinda* nearly always of the pappi of a fine latex-yielding liana, *Oncinotis chirindica* (Moore), is the chief material employed, being then merely braced externally with a thin network of some of the other materials mentioned, but sometimes moss (especially a luxuriant *Madotheca* common on tree-trunks) is the main material used, and at other times dry leaves, which are in any case very generally employed to support the cup. The *Behnia*-leaves and this lining of down almost invariably characterize such nests of the bird as are found in *Chirinda* and *Chipete*, the other materials varying a good deal; cobwebs are used, but not to a great extent. The nest proper from dome to bottom of cup (measured externally) hardly exceeds 3.6 or 4 inches in depth, but the attachment may sometimes measure 7 and the tail 10 inches or a foot. The female will occasionally sit very steadfastly, but as a general rule I find that she slips quietly down into the undergrowth on my near approach and returns equally stealthily in from

five to ten minutes. Meantime, however, the male may usually be heard and, when bold, seen, flying about in the branches all round with a loud but anxious "cip-cip-cip."

Fifteen of these Sun-birds measured in the flesh gave an average of 5·64 inches, with a maximum of 6·2.

66. ANTHOTHREPTES COLLARIS HYPODILUS. Zambesi Collared Sun-bird.

Rh., P. Though less plentiful than *Cinnyris niassæ* at Mafusi and near Chirinda, and than *C. kirki* in the lower Jiln, this is in both cases one of the commonest Sun-birds of the locality, and I found it fairly frequently in the neighbourhood of Chibabava (400 ft.) in December and January. At Chirinda it has been more or less plentiful right through the past year, usually following the trees along the outskirts in pairs and small parties and searching the foliage carefully for insects, or frequenting any tree or climber with attractive flowers which happened to be in bloom either in or just outside the forest. Some of its favourites were, I noted, *Achyrospermum Carralhi*, *Helinus Mystacinus*, a large climbing *Gonania*, *Macrorungia pubinervis*, and the long brown flowers of *Halleria lucida*, which I frequently saw it probing with its bill during August in company with *Cinnyris olivaceus*. It is readily snared on the *Leonotis*-blooms. It has a very loud and ventriloquial call, "Tsiwu! Tsiwu!" with which individuals 80 or 100 yards apart may sometimes be heard replying to one another. On April 10th I watched an immature bird, one of a family-party perched on the top of a *Carissa* hedge, behaving somewhat curiously, bowing and curtsying with a rattling noise of the wings such as this species frequently makes in taking short flights.

A nest which I took on the Kurnmadzi on the 20th of November was slung from the twig of a custard-apple (*Auona senegalensis*) in the grass-jungle, three feet from the ground, a very large leaf of the plant entirely shading the perch and acting, doubtless designedly, as an effective protection against rain. A few leafy stems of a common climbing fern (*Lygodium subalatum*) completed the concealment of the nest, which was composed externally of dry grasses, a few small

strips of bark, and the dry leaves of the climbing fern, the first material predominating; finer grasses surrounded the entrance and formed a ceiling for the porch, which was fairly large. A few rough, dirty pieces of lichen were affixed externally, especially to the bottom of the nest, the cup being lined with vegetable down (the pappi probably of the "Rukangazi," *Cryptostegia oblongifolia*) and fine grasses. Total depth (exclusive of hanging pieces of grass, &c.) 5·1 inches; front to back 2·85 (external); side to side 2·1; diameter of opening (which is round) 1·35; depth of cup (inside) 2. There were two eggs, nearly fresh, white in ground-colour, the larger end surrounded by a complete finely-speckled zone of pale grey, a few of these fine spots straying to other parts of the egg; intermixed were slightly larger spots and small streaks of dark sepia-brown (almost blackish), many of them slightly suffused. They measured 0·65 inch and 0·63 by 0·45.

A second nest containing one young bird was built entirely of bleached grass-blades lined with downy pappi, and was slung from the side twig of a shrubby young "Chinanga" (*Zizyphus mucronata*) in the long grass; the porch lacked the sheltering leaf and was wider and more overlapping than in that previously taken, but at the same time clumsier. In both cases the female was very shy about returning, and at neither nest did the male bird put in an appearance at all.

Thirteen of these birds (male and female, there is little or no difference between the sexes in size) averaged in the flesh 4·2 inches, with a minimum of 4·1 and a maximum of 4·6 (an exceptionally large bird). Thirteen stomachs have been examined and contained ants, flies, small beetles, larvæ (in five cases), a small snail, and two spiders.

67. ZOSTEROPS ANDERSSONI. Andersson's White-eye.

Rh., P. On the Kurumadzi during the first half of August this White-eye was quite the commonest bird, being more numerous even than *Pycnonotus layardi* and the two common Seed-eaters. They (the White-eyes) were going about everywhere in the tall grass-jungle in flocks numbering

as many as forty individuals, diligently searching the *Leonotis*-clumps for food, and, when temporarily tired of insect-hunting, chasing each other about amongst the branches of the trees. Their note, frequently uttered, was a mournful swallow-like "Chiw!" They were very tame and I several times watched one draw two or three larvæ in succession from the *Leonotis*-braets, generally perching below and probing all round with its bill. In November in the same locality I saw very few of these birds; much of the grass had been burnt, and the *Leonotis*-clumps were no longer attractive. I have never seen such large flocks in the higher country, where, however, parties of a dozen individuals are common enough. I have also shot this species in the Chikamboge Valley.

Bill black, base of gonys bluish white; irides light brown, tinged with either yellow or grey; feet blue-grey, but variable, usually light or even quite pale, but occasionally dark. Eight birds were measured, averaging in the flesh 4.35 inches each, maximum 4.6.

68. *PARUS CINERASCENS PARVIROSTRIS*. Northern Grey Tit.
Parus parvirostris Shelley, B. Afr. ii. p. 243.

Rh. On September 27th, when camping on the Haroni River, I shot one of a pair of these birds which were flying from one *Brachystegia* to another and searching for insects in the tender red foliage. It measured 5.4 inches in the flesh.

69. *PARUS NIGER*. Black Tit.

Rh., P. The only places at which I noticed this Tit in the low veld were on the Lower Umswirizwi (1000 ft.) in November, and in the *Brachystegia*-woods bordering the Madanda forests, near Arucate, at perhaps 400 feet, where I shot the female of a pair which were calling to one another with a harsh note. The stomach contained a beetle and the remains of fruit. Three birds measured gave an average of 6.34 inches in the flesh.

70. *LANIUS HUMERALIS*. Northern Fiscal Shrike.

Chindao: "Mutungadzorera" (or "-dzaora"), meaning "impaler of 'gamey' food." "Laksman" of local Dutch.

Rh., P. With us this Butcher-bird is by no means abundant, but it is widely distributed and may be seen occasionally perched on the top of some commanding shrub or tree, jerking its long tail and uttering its harsh "Twee-twee!" I have noted it most frequently in the neighbourhood of Chirinda, in the Chikambo Valley and at Maruma, where the young orange-trees are a favourite perch. When they were in flower last September, a "Laksman" might be seen perched on them daily, with its head and body tilted forward and its long tail projecting horizontally, gaining an easy livelihood from the swarms of hymenoptera and other insects which were attracted by the sweet-scented blossoms, while doubtless it found the thorns of the orange-trees useful as hooks.

I find a few nests of this species every season; it prefers isolated trees in more or less open grass-country, and builds a large, strong, but somewhat handsome nest, usually more or less concealed by foliage, of the stems and leaves of the common "everlasting" (*Helichrysum nitens*), mixed with a little bracken or grass and braced with fine, tough twigs or roots; the lining consists of fine roots, flower-pedicels, or grasses, and is usually neat and fairly abundant. In the neighbourhood of Chirinda, at all events, the external nest is, as a general rule, almost entirely constructed of the first named material, the stems of the "everlasting," with their yellow flowers and white downy leaves still attached, being either wound together as they are or formed into an extremely tough white felt. The nest varies somewhat in size with the method of construction adopted, two specimens in my collection measuring respectively in external diameter 3·6 (a felt nest) and 5 inches, and in depth 3 and 4·5 inches. The internal measurements vary less, the cups being roughly 3 inches in diameter by from 1·75 to 2 inches in depth. There are two common types of egg—one bluish, greenish, or greyish-white, with numerous spots and small blotches of light olive-brown and grey; the other far duller, and finely speckled all over with very pale dull grey and brown spots on a creamy ground: in both these types the markings frequently

form a zone round the larger end, but occasionally round the smaller. They measure from 24 to 26 mm. in length, by 18 to 20 in breadth. Three eggs are laid, and the sitting bird, at other times so bold, will slink quietly from the nest at the very slightest alarm, seldom returning till after a considerable interval. An adult female measured 9·1 inches in the flesh, and two birds in immature plumage 7·8 and 7·25. The stomachs contained beetles.

71. *LANIUS SUBCORONATUS*. Coronetted Shrike.

Rh. I have only secured one specimen of this Shrike, which I cannot but think is merely an occasional variety of *L. humeralis*. The nest and eggs, which I took on October 30th, exactly resembled those of *L. humeralis*, the former being built of everlastings, &c., not felted, and the eggs being three in number and of the closely-freckled type.

72. *LANIUS COLLURIO*. Red-backed Shrike.

Rh., P. During my recent trip to the coast, from November to January, I found the Red-backed Shrike to be one of the commonest birds throughout the low veld. It was particularly plentiful at Arucate and between Chibabava and that place, and right from Chimbuya, through the Umtefu River, Chibabava, and Muchukwana's to Chirinda, being usually met with at frequent intervals, sitting alone on the tops of bushes or small trees on the watch for passing insects. Between the two last-named places nearly all the individuals that I saw were males in full plumage, though previously, and particularly from Chimbuya's to the Umtefu, I had seen little else than females or young birds. I have not noticed this Shrike near Chirinda later than April 2nd.

Eight specimens averaged 7·11 inches, varying from 6·65 to 7·5.

73. *NILAUS BRUBRU*. Brubru Shrike.

Rh. I noticed one of these birds, the only "Brubru" I have yet seen in Gazaland, on the 29th of July in an open wood on the western slope of Chirinda. I found its nest nine years

ago in Mashonaland, on October 20th, containing young birds. It was placed about fifteen feet from the ground in the fork of a *Brachystegia*, and so small was it, and so well assimilated to the surrounding bark, that except when the old bird was sitting it was perfectly invisible. It was composed entirely of a curious pale green-grey cement or felt intermixed only with a couple of *Brachystegia*-leaves and lined scantily with two or three fine grasses. The male, which I afterwards shot, was on the nest when I first found it; its stomach contained beetles and a grasshopper.

74. TELEPHONUS SENEGALUS. Black-headed Bush-Shrike.

Singuni: "Umqubana" (Zulu "q"). The Mashona name is "Samora."

Rh., P. As common in the low veld proper as it is in the high, but I have not yet found it in the lower Jihu, where it appears to be replaced by *T. australis* and *T. anchietae*. From the beginning of November to the middle of January I frequently came across it in travelling from the Mwangezi River to the coast, localities specially mentioned in my notes being the Mwangezi itself, the Umtefu, Inyajena, Chibabava, the Idunda River, Inyamita, and Gwaragwara. In the Mafusi country, as well as through Northern and Southern Melsester, it is common enough, and I have noted it on the lower Inyamadzi and middle Buzi (above its junction with the Umswirizwi). I have already described the nest of this bird ('Ibis,' 1907, p. 46), and have now only to add that grass-blades, bark-fibre, and twigs are occasionally used in its construction as well as roots. The streaky markings on the eggs were in one clutch quite short and confined to the larger ends of the eggs and were deep purple-brown in colour; in another they were pale purplish brown-madder, and I have also taken clutches in which only the paler grey markings were present. The sitting bird leaves the nest easily, usually returning in about ten minutes. On one occasion as I was watching, both birds returned and perched on a branch a few feet above my head, and a long consultation of short, low, harsh notes ensued before the hen would

again venture near the nest. If the surrounding ground is fairly bare (as in many parts of Mashonaland, rarely with us), the bird will nearly always drop from the nest on being disturbed and run a few yards before rising. In October of 1898 I continued to shoot the bird every time I saw it leave the nest, with a view to ascertaining how often it would take to itself a new mate. The first to be shot was a female, the next a male, and the third again a female, after which the eggs were removed, probably by the bird itself.

Feet invariably light blue-grey; iris grey, often rather deep and with a dash of cobalt, while the pupil is occasionally surrounded by a narrow ring of chestnut. In the nestling the bill is grey-brown, and irides and feet pale grey. Six of these Shrikes averaged in the flesh 8·97 inches, and locusts, beetles, a wasp, spiders, a large cricket, and larvæ were amongst the contents of their stomachs.

Two young birds, nearly fledged, from the same nest, resembled the adult in general coloration, but the crown and eye-stripe were duller, merely blackish-brown; eyebrow uniform pale buff throughout; lores occupied by a bare patch of grey skin and a similar patch just behind the eye; back and rump vandyk-brown, a far colder shade than in the old bird; two centre tail-feathers barred as in the adult, others white with black bases; wings as in adult, but whole of under-surface more strongly tinged with buff, the grey shade of the chest appearing as faint dusky bars. Culmen 0·67 and 0·6; wing 2·57 and 2·3; tail 1·27 and 0·9 inches.

75. TELEPHONUS AUSTRALIS. Three-streaked Bush-Shrike.

Singuni: "Umqubana."

P. During my stay on the Kurumadzi in August, I found this to be the common *Telephonus* of the neighbourhood. It might sometimes be seen perched or moving about quietly in the bush or feeding on the ground along the edges of Kafir clearings, and was very shy, flying low and at once taking refuge in the dense bush or nearest rank herbage.

My three specimens measured from 7 to 7·25 inches in

the flesh; bill light ashy-grey, feet light blue-grey, irides brown-madder. The three stomachs examined contained grasshoppers, large and small, a whole mantis egg-case, two larvæ, beetles, and other insect débris.

76. TELEPHONUS ANCHIETÆ. Anchieta's Bush-Shrike.

Telephonus anchieta, Gad. Cat. B. viii. p. 129.

Rh., P. A bolder bird than either *T. senegalus* or *T. australis*, choosing the tops of stakes and shrubs to perch on instead of skulking, as they do, in the undergrowth, and recognisable at once and at a distance by its conspicuous buffy-white breast and upright carriage.

I have twice secured specimens in the lower Jihu, the second time on the 11th August, the bird, which was in immature plumage, perching on a tall grass-stem a few yards from the Kurumadzi. And on the 7th November I shot a third at 3500 feet in a gully at the foot of Chirinda, the stomach of which contained grasshoppers and beetles. Bill black; feet light slaty-grey; irides pale brown-madder. In the immature bird the bill was dusky with a paler gonys and the feet leaden grey, and it measured 7·5 inches in the flesh as against the 7·19 and 7·7 of my other two specimens. In plumage it differed in the feathers of the crown being wholly or partly pale buff, giving a pale centre and a generally blotchy appearance to the cap; eyebrow buffy white and inconspicuous; lower parts rather more strongly tinged with buff than in the adult. The stomachs contained grasshoppers, beetles, and dragon-flies.

77. DRYOSCOPIUS CUBLA. Lesser Puff-back Shrike.

Rh., P. Extremely plentiful on the Kurumadzi, particularly in the thick bush, in which, not only in the Jihu but in the neighbourhood of Chirinda, it never goes about in the flocks which I have noted in the open woods of the higher elevations, but is always to be met with singly or in pairs and is also somewhat shyer than when in larger parties. It is a most diligent insect-hunter, and I have frequently watched it carefully and systematically examining the

upper foliage in thick bush, calling occasionally while thus engaged and being answered, often at some distance, by its mate with a low, somewhat harsh, repeated note "Che-che-che-che, &c." (light German "ch"). Its commonest note, however, is a loud click, followed by a clear whistle; the latter was well rendered by Marshall in his paper on Mashonaland birds, but the former has usually, in winter I think always, a decided roll in it, and the whole might be rendered most nearly as "Trrk-whiw!" In the spring the birds seem to acquire an extended range of song, a fairly common note from October onwards being a loud, harsh "Chikerrr! Chikerrr!" or a tearing note somewhat like that of *D. guttatus*. The male, too, at this time of year, will frequently stop in its search for insects and sing, with outstretched neck and head on one side, "Trr-trr-trr-trr-trr-Trrk-who-whecoo! Trrk-who-whecoo! Trrk-who-whecoo!" a "Whip-poor-will" sort of note rather longer drawn than the commoner "Trrk-whiw!" I once, in the winter, noted a pair calling to one another with a peculiar "chip-chip-chúruru!"

This bird has a loud crackling flight and a peculiar display; it will sometimes fly with this crackling sound for some distance (perhaps halfway in crossing an open space between trees) and then, holding its head well up and bringing its outstretched wings well down at each note, utter in flight the rapidly repeated "twhiw, twhiw, twhiw" (with little "click" and no roll), which in the summer often takes the place of the commoner and less modified note. It is common in the Inyamadzi Valley in the more luxuriant growth bordering the river, and in the Chikamboge Valley. In the low veld I found it particularly plentiful between Inyamita and Malata, as well as at Chibabava and in the Madanda forests; other low veld localities noted were the Mwangezi River, Chinbuya, the Umtefu, Gezanye, Arucate, Muchukwana, Idunda River, Inyandhlovu, and Gwaragwara.

Five of my specimens averaged 6·81 inches in the flesh, with a variation of from 6·35 to 7·1 inches.

78. *DRYOSCOPIUS GUTTATUS* (Hartl.). Hartlaub's Shrike.

DRYOSCOPIUS MOSAMBICUS (Finsch & Reichw.). Mozambique Shrike.

Singuni: "Icivana" (Zulu "c").

Rh., P. Both these forms occur commonly here, and the difference in their plumage is probably largely a matter of age and sex. That they are one and the same species, I have very little doubt, as I found them breeding together on the Kurumadzi on November 22nd. The nest contained one young bird with only two white-edged secondaries in each wing. I waited and shot both parents: the male, like the young bird, had only two white-edged secondaries; the female three white-edged secondaries in each wing and a whitish breast. An examination of the sixteen skins in my collection confirms this view.

This Bush-Shrike is particularly plentiful in grass-jungle country (as at Mafusi's, where I specially noted it as common at Maruna and in the Chikamboge Valley, also on the Inyamadzi) and especially so throughout the lower Jihu, where one constantly hears its calls or catches glimpses of it in the long grass, in spite of its skulking habits. In the low veld I have seen it only on the Umtefu River. An individual with a dark breast daily frequented the clearing round my camp on the Kurumadzi, and, as I would not permit it to be molested, it became exceedingly tame after a few days, hopping in and out amongst my grass shelters and sometimes right up to the door of my tent, with its head first on one side, then on the other, or occasionally erected to utter a harsh note, not unlike the tearing of cloth; it appeared to obtain a plentiful supply of food from the newly cleared ground. I found several nests of these birds in the same locality during November; these were placed at from four to seven feet from the ground (mostly recently-burnt jungle) and without any attempt at concealment, in such places as the centre of a burnt bare tangle of *Rhoicissus zanzibarensis*, on supporting twigs against the bark of a large *Pterocarpus* or *Acacia*, in the fork of a small tree, &c., and in general appearance much resembled those of *Telephonus senegalus*.

They were constructed externally chiefly of roots, but these were usually intermixed with a few dry herb-stems, particularly those of *Mucuna coriacea*, while in one or two cases a little grass, the tendrils and leaves of the above-mentioned *Rhoicissus*, or a strip of bark were worked in; they were lined entirely with reddish-brown roots, compactly arranged, or the midribs of some pinnate leaf. External diameter of nest 4 to 5·1 inches; depth from 1·85 to 2·5. Diameter of cup about 3 inches and depth 0·8 to 1·4 inches. The eggs were always two in number, pale greenish-blue, or white very faintly tinged with greenish-blue in ground-colour, with numerous spots and blotches, sometimes longitudinal, of violet-grey, brown-madder, and deep chestnut-brown, the markings usually larger and most numerous about the larger end, where they sometimes form a zone and at others tend to stray over the pole and form a cap; the variation is so considerable that, of the two extreme types in my collection, one resembles the English Moorhen's egg in its scheme of coloration, while the other approaches that of *Laniarius quadricolor*. They measured from 23 to 25 mm. long by from 17 mm. to 17·8 broad.

The behaviour of the birds at the nest is most interesting, and may be best illustrated by one or two quotations from my diary:—"On waiting for the birds to return I was treated to quite a pretty performance. After ten minutes' wait the female appeared at some distance to my right and was followed shortly after by the male, who took up his position in some thick scrub immediately below her. She, however, was in full view, and commenced the duet: 'kéa-kéa-kéa' (*anglicè* 'care'), notes like the tearing of cloth and with a low bow at the end. These three notes she would repeat three or four times and then come out with a loud 'Quare!' to which the male replied 'Woh!' (the 'Quare' longer-drawn and bolder than the preceding 'Care,' and the male's 'Woh' hollow and resonant, like the loud musical croak of certain frogs). I could not observe the actions of the male well, as he was more or less hidden by the scrub, but the third 'Care' and

every 'Quare' of the female was accompanied by a bow. This went on for two or three minutes, when she flew towards the nest, followed in a few seconds by the male. At this moment my terrier frightened them, but I banished him and again waited, hearing several times the male's note repeated three times in succession 'Wo, wo, woh!' when I might even then have mistaken it for a frog's, had not the female sometimes joined in and renewed the duet for a few seconds. Finally, she flew to the nest and had just said 'Quare' when I shot her to ascertain her sex, the male, still at a distance, answering 'woh' after the shot." The calls vary somewhat in their arrangement, and when the two notes are run into each other, as they sometimes are, without an interval, and kept up for some time, one might easily mistake them for a true frog-duet. At another nest: "The birds were bolder than usual, though in any case they are not so shy at the nest as at other times, the female especially remaining in sight while moving about in the higher branches of the trees some distance away, though the male, as usual, skulked to some extent. Their performance differed from that of the other day, the male calling twice to the female's once. Male: 'Woh!' Female: 'Quare!' Male: 'Woh!' The first 'Woh!' is rather long-drawn and the second is shorter and sharper and breaks in in the middle of the female's 'Quare!' The birds kept this up steadily for quite a long time, bowing at *every* note, recommencing again immediately should they be interrupted by a flight and keeping time perfectly, however far apart. When, once or twice, the female called without waiting for the male, he promptly brought in the second *sharp* 'Woh!' only, in its proper place. The alarm-note is a short repeated 'Tchk! Tchk!' and was in this case uttered by the female when I shot the male, and was continued by her for some time interspersed with numerous 'Quares!' as she searched for him. A second female had just previously joined in the song at a little distance off, and now, after the male's death, continued to make answer (always with the same 'Quare') to the survivor's call."

I have to add to my previous list of the food of this Bush-Shrike snails (in three cases), a *Noctua*, large ants, and, in one, *Physalis*-like seeds, but in nearly every one out of the fourteen stomachs examined the *pièce de résistance* had been beetles.

Thirteen of these birds, measured in the flesh, averaged 8·38 inches and shewed a considerable variation, ranging from 7·8 to 9·25. A nestling, nearly ready to fly, measured only 4·8 inches.

79. LANIARIUS QUADRICOLOR. Four-coloured Bush-Shrike.

Singuni: "Ighiya-ngehlangu."

Rh., P. I have noted this fine Bush-Shrike in the lower portions of Chirinda, and frequently in Chipete and other forest-patches of the high veld, as well as in the Inyamadzi and Chikamboge valleys and at Maruma. In the lower Jihu it is really plentiful, particularly in the denser bush, though heard far more frequently than seen, and it is common in the Madanda forests; I have also heard it in the low veld in two or three places between Muchukwana and Chironda, including the dense bush at Chironda itself. I have twice watched one of these birds calling on a horizontal branch a few feet from the ground. It kept well down on its breast with feet wide apart moving sideways occasionally along the branch, bobbing its head up and down and frequently uttering its loud melodious call: "Pom! puwe, puwe!" It is probably this dancing movement which, with the bird's boastful coloration and bold call, has caused the natives to give it the name of "Ighiya-ngehlangu," the expression having reference to the custom whereby at the great war-dances a warrior will rush out of the ranks and repeat his exploits, both by narrative and action, before the Chief, his comrades meanwhile dancing and beating time upon their shields (*ihlangu*).

I found two nests with eggs in the Jihu in November. These were placed, one within two feet of the ground on the end of a bent-down branch of *Brachylæna*, supported loosely

by trailing stems of *Smilax Kraussiana*; and the other, not much higher, in the centre of a dense bush of *Rhoicissus zanzibarensis*. The latter nest, which I have kept, is 6 inches in diameter by 1·5 deep; the cup, as always, being very shallow, with a depth of only 0·75. Externally it is composed almost entirely of dry grass, weed-stems, and one or two twigs, and is lined moderately densely with the fine reddish-brown midribs of some pinnate leaf, already noted in the case of *D. guttatus*. Two apparently is the full clutch. The eggs in each case greatly resembled those which I described in a former number of 'The Ibis' (1907, p. 48), the ground-colour being a very pretty pale Hedge-Sparrow blue. They measure from 23 to 24 mm. in length by from 16 to 16·5 in breadth. In connection with the first of these nests, I have the following entry in my diary:—"As I heard the bird close at hand, I immediately sat down where I was, within two yards of the nest and in full view (for those who had eyes to see), and remained perfectly motionless. After moving about in the surrounding thickets of burnt scrub, uttering constantly a low grunting note, the male finally came into view, and moving closer and closer, always grunting, perched finally on the long horizontal branch supporting the nest, and, sidling down towards it, burst into song" (exactly repeating the performance which I have described above), "though eyeing me suspiciously all the time." The Woodward's rendering of the note, "Kong-kong-koit!" does not quite represent it as it is uttered by our local birds. Length in flesh (of two males) 7·7 inches. Irides brown-madder.

80. *LANIARIUS BERTRANDI*. Bertram's Bush-Shrike.

Laniarius bertrandi Shelley, Ibis, 1894, p. 15, pl. ii. fig. 2.

Rh., P. This really delightful songster is quite common in Chipete and the other smaller forest-patches of the district, such as Maruma and those of the Chikamboge Valley. It is really plentiful on the Kurumadzi and in other portions of the lower Jihu, while in portions of Northern Melsetter it appears to be commoner almost than

Pycnonotus layardi; in September last, throughout the scrub-grown glens and along the streams in the neighbourhood of the township itself, I used to hear its notes from morning to night and frequently saw the birds themselves, in pairs, or very occasionally in threes, moving about amongst the scrub or insect-hunting in the branches of the flat-topped thorns and other trees; while thus engaged they would often halt to pipe off a string of their mellow notes with bill well open and pointed upwards. In the same month I heard it on the Lusitu and Haroni Rivers, and found it to be common in the forest-patches and wooded ravines of the Chimanimani Mountains. I also heard it in the low veld in December in the rubber-forests of the Madanda. Unlike Ayres in the case of the nearly allied *L. rubiginosus*, I have found this bird to sing freely all the year round, and during my stay in the Jihu last winter its wonderfully varied notes were constantly to be heard. One of its finest calls, and at the same time one of its commonest, is a loud musical "Kwheeee! Kwhee-kwhee-kwhee, Kwhee-kwhee, Kwhee-kwhee, Kwhee!" its tail being moved slightly up and down with each note as it utters it. Other musical calls which I have not yet described are "Whi-ho, whi-ho, whi-ho, whi-ho, whee!" and a Nightingale-like "few, few, few, few, few, few, few, few!" slightly slower than the "Kwhee, &c." note. When insect-hunting it sometimes utters a rather harsh rolling note.

On the 21st of November I found a nest loosely placed 8 feet from the ground in some small twigs of an *Acacia natalitia* in the grass-jungle close to my camp on the Kurumadzi. Externally it was composed chiefly of the tendrils and stems of *Rhoicissus zanzibarensis*, the material becoming finer towards the centre of the nest, till finally a thick lining of the fine terminal twigs of the thornless wild asparagus (*A. virgatus*), mixed with the reddish midribs of a certain pinnate leaf (probably *Albizia*), is reached: a shallow nest, the cup being only 1.25 inches deep; total depth 3.4, diameter 5.2 and 3.75 (an oval). It contained one unfledged nestling. Four birds measured in the flesh give an average

of 7·17 inches, ranging from 6·9 to 7·4. The bill is black, blackish in the female, with a light grey base to the lower mandible, the feet are light blue-grey, and the iris bright brown-madder (in one female deep sienna-red). The stomachs examined have contained large larvæ, beetles, hymenoptera, and a mantis.

81. LANIARIUS OLIVACEUS. Olive Bush-Shrike.

Rh., P. Though by no means so plentiful there as *L. quadricolor*, *L. sulphureipectus*, or *L. bertrandi*, this Bush-Shrike is not unfrequently seen in the lower Jihu moving about in the bush or flying across open spaces.

On August 19th I secured a female in my *Solanum* hedge on the outskirts of Chiriunda, and I had previously once noted it on the outskirts of Chipete. The average length in the flesh of four of these Shrikes was 7·7 inches, with a variation of from 7·4 to 8·2. Bill: upper mandible and point of lower dusky or blackish, rest of gonys pale horn-colour. Feet light blue-grey with a tinge of flesh-colour. The stomachs contained a large tarantula, larvæ (in one case nine), beetles, and grasshoppers.

82. LANIARIUS MANNINGI. Manning's Bush-Shrike.

Malaconotus manningi Shelley, Ibis, 1899, p. 314.

Rh. On the 19th August, 1906, I watched a pair of these handsome Shrikes moving about quietly amongst the foliage on the outskirts of Chirinda and secured the female; on the 27th of the same month I observed a third at the same spot, and on the 13th of April of this year Odendaal shot a fine male about 200 yards higher up on the forest-outskirts.

The hen-bird measured 7·7 inches in the flesh, the male 7·35; bill in each case black; irides of the former pale broken crimson-pink, feet leaden-grey; irides of the latter a pretty shade of deep burnt-carmine, feet bright blue-grey with dull creamy soles. The stomach of the first contained three larvæ, a large wasp, and beetles. This is the Nyassaland form of *L. abbotti* (Richm.), recorded now for the first time from South Africa.

83. *LANIARIUS SULPHUREIPECTUS*. Orange-breasted Bush-Shrike.

Rh., P. Occasionally seen about Chipete or the lower portion of Chirinda and a common bird on the Kurumadzi River, where I caught frequent glimpses of it in the jungle and constantly heard its clear call "Pipitye, pipitye! Pipipitye, Pipipitye!" continuing sometimes long after sunset. I once attempted to keep one of these birds in captivity, but without success; its alarm-note was a harsh cry like that of *L. starki*. I also secured a specimen in the Zinyumbo Hills in November.

A very large mantis (entire), beetles, and larvæ have been amongst the stomach-contents; one stout hairy moth-caterpillar, swallowed entire (in a stomach which already contained six others), measured no less than 2.4 inches in length. Irides dark or purplish brown; feet blue-grey, in one case rather dark. Average measurement in flesh of four birds 7.35 inches; range 7.1 to 7.65.

84. *LANIARIUS STARKI*. Southern Grey-headed Bush-Shrike.

Rh. This bird is a great eater of *Neptunides polychrous*, a Cetoniid which is extremely destructive to our pineapples, and nearly every stomach which I have examined has contained its remains.

Care is necessary in handling a captured bird, as they bite fiercely, inflicting nasty cuts. One which I kept in captivity for some time fed freely on locusts, grasshoppers, and larvæ, which it would take from my hand, through the bars, from the first, and would utter, when alarmed by a dog or a cat, a harsh cry (comparable to the squeaking of a cartwheel), which may be rendered "Chichy-chichichy! Chichy-chichichy-chichee!"

On the 12th November I was shown a nest of this bird placed on the terminal twigs of a thin projecting branch of a "Mushungunu" (*Bridelia* sp.), about 20 feet from the ground, on a precipitous slope near the bottom of a wooded kloof close to Chirinda. It was a broad flat structure about

9 inches in diameter, of dry twigs (amongst them several of the common thorny *Smilax Kraussiana*), and resembled a Dove's nest, though broader and more substantial than the average nest of *Turtur capicola*. The depression in which the eggs were laid was slight and unlined, so slight that one could see practically the whole breast of the bird with one's eyes on a level with the nest, as it sat with head forward, tail up, and wings "ajar." The nest was so loosely put together that it came to pieces immediately on being removed from its position. This account differs from Millar's, quoted by W. L. Selater (Fauna of S. A. vol. ii. p. 32), but there can be no doubt of the identity of my bird, for I shot the female as she left the nest, having first watched her for two or three minutes as she sat. The nest, too, was her own work and not booty taken from a Dove, for the native who shewed it to me had watched its progress from the time that it was only partially built and had reported to me some days later the laying of the first egg. It may, however, have been the work of a young inexperienced couple trying their hand at nidification for the first time. The nest was inaccessible and the eggs, which were four in number, could only be obtained by holding out a butterfly-net at the end of a 20-ft. pole and tilting them into it one at a time with a long stick. They were very large and rounded, with large pale brown and grey blotches, chiefly about the larger end, where in three of the four eggs they form a zone and in the fourth a patch. They vary from 27 to 29 mm. in length (two of them measure 28) and from 21 (three eggs) to 22 mm. in breadth. The stomach of the female contained the remnants of a small bird. Five birds measured in the flesh averaged 9.95 inches, the smallest being 9.5 (a female) and the largest (a male) 10.3. The irides are gamboge, varying a good deal in intensity, and the feet usually pale blue-grey, in two cases dull grey.

85. *Nicator gularis*. Zambesi Green Shrike.

Rh., P. During my stay there in the latter half of November the Zambesi Green Shrike was very common throughout

the denser patches of bush on the Kurumadzi and elsewhere in the lower Jihu, judging by the frequency with which one heard its call. I succeeded three times in stalking and watching a bird as it sang; but this was by no means easy, for not only was it exceedingly shy, but it invariably haunted the higher foliage, where its protective coloration rendered it very difficult to detect even when singing. One of the higher branches or twigs of some large tree, standing in the midst of smaller dense bush, seemed to be their favourite perch, and from here they would pour out their song continuously for many minutes on end, a loud musical "Chíkuwu, chikwu, chi!" which sometimes ends with a Nightingale-like "tyo-tyo-tyo"; this is alternated with a harsher "Tyiurrr!" and the intervals between are commonly filled with the repetition, one by one, of all kinds of short low whistling notes. The head is craned forward and the throat swells, but there is no other movement, the bird remaining motionless on its perch while the song lasts. One which I watched was being answered at intervals by the "tyurrr" note from lower down, probably by the sitting hen, but I was unable to locate the nest, the thicket being thorny and impenetrable save by axe. I have never heard this Shrike while in the Jihu in August; possibly, though so noisy in the breeding-season, it may become silent in the winter. I came across it constantly during my December to January trip across the low veld, noting it particularly in the neighbourhood of Chibabava and thence to Chironda and on to Umhlonhlo, and south to Arucate. It seemed to be commonest in the patches of forest and wooded dongas in the neighbourhood of the Idunda River and in the rubber-forests of the Madanda, where I again succeeded in watching one as it sang. A male which I shot in the Jihu measured 9·7 inches in the flesh. Its bill was dark grey, its irides medium grey-brown, its feet light grey, and its eyelids yellow and somewhat thickened. The stomach contained the remains of grasshoppers and beetles.

86. SIGMODUS RETZII TRICOLOR. Zambesi Helmet-Shrike.
Chindao: "Mariganyama."

Rh., P. I have come across flocks of this handsome Helmet-Shrike not infrequently during the past year in the open woods about Chirinda, and during my journey across the low veld I found it in quite a number of localities, securing specimens at Gezanye, Arucate, and Indabila. Most of the birds in these parties were in immature plumage. They commonly utter all together a low pleasant note, but their vocabulary is varied and some of their calls distinctly quaint; I quote the following from my note-book (Sept. 8th):—"A flock of *Sigmodus retzii* was busy insect-hunting in the branches of a small grove of *Uapaca Kirkiana*, near the western drift of the Inyamadzi. On my firing a shot they uttered a most striking note of apparent wonder: 'Turee-whoooo!' slowly, followed by a rapid 'Turika-who Turika-who turika-who!' I subsequently sighted them again, but they were now thoroughly alarmed and, keeping to the tops of the higher trees and uttering a peculiar rolling guttural note, they took long flights from grove to grove and finally crossed the valley."

The bill, eye-wattles, and feet of an adult male were vermilion, the former becoming yellowish at the tip; in a female not actually breeding the extreme point and culmen were dusky, the irides deep gamboge (nearly orange), and the feet orange-vermilion; while in an immature male the bill was dark horn-colour, paler and yellowish on the lower surface of the gonys and along the basal half of the commissure, and the irides light brown. The stomachs of these birds contained beetles, larvæ, a fair-sized mantis, and a large grasshopper. 8·86 inches is the average measurement in the flesh of four of these birds and 8·7 and 9·1 the variation.

87. PRIONOPS TALACOMA. Smith's Helmet-Shrike.

Chindao: "Mariganyama."

Rh. These birds will sometimes follow a grass-fire, feeding on the roasted insects left in its wake. Four specimens measured in the flesh vary from 7·75 to 8 inches,

and a *Phasma*, a mantis, and beetles (including a small but very destructive *Colasposoma*) were amongst the contents of the stomachs examined.

88. CRATEROPUS KIRKI. Kirk's Babbler.

Singuni: "Idhlekedwana."

Rh., P. A common bird in the grass-jungle of the Jihu and the Inyamadzi, where I found it feeding along the open road. During my last journey across the low veld I came across several flocks, particularly at Chimbuya, between Inyajena and Chibabava, and at Indabila and Inyamita. A nest which I found in 1898 was formed externally of coarse grasses, roots, and fine twigs, and lined with finer grasses and fibres. It was well hidden in the thick fork, about 12 feet from the ground, of a *Parinarium* and contained three very glossy eggs, measuring 24.5 by 19.5 and 23.5 by 19 mm. They were of a uniform greenish-blue colour, with almost the gloss of a Starling's. Three adult birds (*C. kirki*) measured in the flesh 8.7, 9.25, and 9.5 respectively; feet dull ashy grey. One of my South Melsetter skins, which I am unable to find, was identified last year by Capt. Shelley as *C. jardinei* ('Ibis,' 1907, p. 49), so that both species probably occur here.

89. PYCNONOTUS LAYARDI. Black-capped Bulbul.

Chindao: "Igweturi." Singuni: "Ipotwe."

Rh., P. Although some other bird may become temporarily more plentiful in some particular locality, as were the White-eyes last August in the Jihu, this Bulbul is, on the whole, by far the commonest bird throughout every part of Rhodesia and Mozambique which I have yet visited, excepting only in dense forest such as Chirinda, which, however, it may frequently be found visiting. In the low veld I found it to be commonest between Inyamita and Malata. It is a delightful cage-bird and bears captivity well, thriving on a fruit-diet, though delighted beyond measure when a quantity of locusts or cockchafer-larvæ are thrown into the aviary, or a sackful of leaf-mould fresh from the forest. At the end of July, expecting to be away from home a good

deal during the next twelve months, I attempted to liberate those in my aviary, but had the greatest difficulty in inducing them to leave it, those which went out first re-entering time after time. For some weeks afterwards the curious sight might be witnessed daily of a number of Bulbuls clinging to the wires and endeavouring to enage themselves, while, in the evenings, they would roost on the projecting ends of the perches, those remaining inside nestling up to them on the other side of the wire. Even in April (when I left Africa), after the lapse of a breeding-season, one or two pairs might still be seen daily attacking the ripe bananas hanging up in my verandah, a trifle which they were very welcome to for the sake of their cheery notes about the house. These notes, by the way, are uttered throughout the year (contrast W. L. Selater, Fauna S. A. vol. ii. p. 63). The natives appear to have the idea that most of those they trap are females, and tell the following quaint story, imitating in each sentence the bird's call-notes:—The male, they say, on finding a snare, will hop on to the switch and call three times: “Ngena, utate, ngilibambile! (Go in and take it, I'm holding it).” “Qa, ngisaba! Qa, ngisaba! Qa, ngisaba! (No, I'm afraid),” replies the hen. The male repeats the call and she goes in. Back springs the sapling and she is caught, and her husband crying “Kade ngutshela! Kade ngutshela! Kade ngutshela! (I told you so),” goes in and secures the bait for himself.

The nest is placed at from 3 to 15 feet from the ground, in a bramble, a tangled mass of climbers, the fork of a tree, in a shrub or clump of tall weeds or on a horizontal branch; twice I have found it in a bed of bracken, tastefully poised on a broad frond with but a slight further support from one or two others at the side. It is usually a neat cup composed of fine grasses and enclosed within a lighter but rougher casing of coarse grass-stems intermixed with, or occasionally replaced by, dry herbaceous stems, roots, bark-fibres, or twigs, often those of the common thorny *Asparagus angolensis*. One noted last season measured 2·8 inches in diameter and 1·75 in depth. The eggs vary considerably,

being usually either pinkish or purplish white (sometimes actually pink) in ground-colour, freckled, blotched, and spotted, usually all over, though more densely in the form of a zone round the large end, with brown-madder or various other shades of rich purplish brown. Handsome types are those in which the markings take the form of large irregular blotches of (1) the same rich purplish brown, (2) light chestnut. Another type approaches a form of the Tree-Pipit's egg, being thickly and finely mottled with different shades of purplish brown, sometimes to such an extent as to obscure the ground-colour, the markings being, in this case too, densest and darkest as a rule about the larger end. Iron-grey spots or blotches, often pale and apparently underlying, are present in almost every case. The measurements of eggs in my collection vary from 20 to 25 mm. in length by from 15 to 18 mm. Only in one case have these Bulbuls shown any excitement on my visiting their nests; they almost invariably leave the nest quietly and one sees and hears no more of either bird—strange behaviour in a bird which is so noisy over snakes and hawks.

In the Jihu, in common with so many other birds there of the grass-jungle and open woods, they were usually to be found at the *Leonotis*-blooms. As it is a matter of dispute whether this bird's ravages in the settler's orchard is counterbalanced or not by its destruction of harmful insects, a detailed list of the stomach-contents of nine Bulbuls, secured at one shot while destroying one of my papaws, may be of interest:—Mulberries only; a large seed and much insect débris, including a white ant; fruit-pulp (papaw) and one *Physalis* seed; three Leguminous seeds and slight insect remains; much débris of a large metallic bug, common on the "Musuguta" (a large *Croton*); two or three seeds of *Physalis edulis*; three Reduviid bugs only; nil; skins of berries. Of six other stomachs examined half have contained fruit (wild figs, *Lippia*, &c.), and the other three insects. Eight of these Bulbuls averaged 8·3 inches in length, with a variation of nearly an inch, 7·75 (an exceptionally small specimen) to 8·7.

90. CHLOROCICHLA OLEAGINEA. Peters' Bulbul.

Chindao (at Chibabava) : Ichwikidjóri."

P. I shot one of these Bubluls, a male, on the 7th of December, at Gezanye, moving about quietly in the foliage of a large tree. It was evidently breeding, to judge by the development of the testes. It measured in the flesh 8.1 inches, and its stomach-contents were a large green larva and the remains of fruit.

91. CHLOROCICHLA OCCIDENTALIS. Damara Bulbul.

Chindao (at Chibabava) : "Ichwikidjóri."

P. I have noted this bird on the Umswirizwi, on the Umtefu River, at Inyajena, and at several other points between Mt. Singuno and Chibabava, both in open and dense bush; also at Bimba. Both in the *Brachystegia* woods at Arucate and in the Madanda forests it is common, and in the high veld I have found it, always in dense bush, in the valley of the Inyamadzi and (in the Mafusi country) in the Maruma forest-patch and the smaller patches of the Chikamboge Valley. In the Jihu it is plentiful in the dense bush of the Kurumadzi, though far more often heard than seen. While the bird was still new to me I have time after time followed its harsh "Barac-barac!" or tinny "twe-twe-twe, &c." notes from point to point without once catching sight of it, though always within a few yards, so cleverly does it utilize its protective coloration amongst the green foliage of the trees.

I have twice taken the nest of this Bulbul, in November and December, one in the dense bush of the Jihu, slung at a height of about seven feet between the thin hanging stems of a climbing fern (*Lygodium subalatum*), and the second nine feet from the ground in a bunch of upright suckers growing from the horizontal branch of a large thorny *Flacourtia* in the open woods near Chibabava. The latter was a shallow, loose, clumsy structure, composed of the dry stems of climbing and other herbs and lined with similar but finer stems and the thin midribs of pinnate leaves. The other was similarly lined with the midribs of *Albizzia fastigiata*, but composed,

externally, chiefly of soft white grass-blades, some twigs, and one or two strips of bark of *Markhamia lanata*; a long tail of these grass-blades hung from the side of the nest. The eggs varied slightly, the ground-colour being pale olive and olive-tinged white (hardly visible), respectively, much marbled, blotched, and smudged with darker olive-brown of various shades, the darkest markings taking the form of spots and streaks. In the latter there are also rounded spots of deep grey, chiefly about the larger end. They measure 1 inch by 0.7 and 0.91 by 0.64 respectively. The nests measured 4.3 and 3.3 by 3.75 respectively in diameter, by 3 inches in depth, that of the cup varying from only 0.75 in the Chibabava nest to 2.1 inches in the other. The sitting bird leaves the nest at once on one's approach and does not return for a considerable time, when her mate also puts in an appearance, and, if the intruder continues to remain, they finally lose patience and shew themselves frequently and freely, flying away for a few seconds only and constantly returning, uttering their "Barac" note all the time with great anxiety.

The bill is always grey-brown, the base of the gonyes paler, and the feet light blue-grey, in one specimen dusky grey. The stomachs have in all four of my specimens contained wild fruits and, in one, three large "soldier" termites as well. These four birds averaged in length 8.41 inches in the flesh, varying from 8.1 to 8.7.

92. *PHYLLOSTROPHUS CAPENSIS*. Cape Bristle-necked Bulbul.

Rh., P. Very common in the denser bush of the Kuru-madzi and hardly less so in the grass-jungle. I have also noted them in the Inyamadzi Valley, in that of the Chikamboge, and commonly in and near the forest-patch of Maruma. In the low veld I heard them in the denser bush about Boka and the Idunda River, in the thick scrub along the Buzi at Chibabava, and in the Madanda forests, where they appear to be common and where a party passed close beside me on the ground as I was carrying out a root-tapping

experiment. An egg of this species which I found this year completely lacked the darker markings, the lighter olive-brown of the zone being carried down to a large extent over the rest of the egg in broad long blotches. I watched this nest for about an hour, during which time the cock-bird kept up a ceaseless scratching amongst the dead leaves on the ground round the nest, always keeping in touch with his mate (within five yards or so); the hen only once left the nest and joined him for a few minutes. They were unusually silent, a low croak from the male at intervals being all they attempted in the way of music while near the nest, though I could hear loud and continuous croaking from a party at a little distance away. The following day I found some feathers and a broken egg in the nest, the sitting bird having probably been taken by an *Astur tachiro*, the only Hawk that I have yet found within the forest. This nest possessed nothing worthy of the name of a cup, being nearly flat, but below were massed, probably with a view to disguise, a quantity of leaves, dry and half-skeletonized, and the nest in general was a far more substantial structure than either of those belonging to this species which I had previously examined. One was as high as eight feet from the ground.

Spiders, moths, grasshoppers, larvæ, a large bug, a fly, and a termite were amongst the contents of the nineteen stomachs examined, though beetles and the berries of the *Celtis* formed the bulk of the food consumed. Fifteen of my specimens averaged 7·8 inches in the flesh, the range of variation being from 7·4 to 9 inches. No. 1265, a female shot in Chipete on April 4th, 1907, has a peculiarly dark chest, the white of the throat being very distinctly shut off as a separate patch, while the light shaft-stripes of the ear-coverts are nearly as conspicuous as in *P. milanjensis*; there are also faint yellow markings on the lower breast.

93. *PHYLLOSTROPHUS FLAVISTRIATUS*. Yellow-streaked Bulbul.

Rh., P. This Bulbul probably varies slightly in its habits according to the nature of the season. On March 11th,

1906, it had already congregated into small flocks, but a month later in 1907, a late wet season, it had not yet done so to any extent, but still remained in pairs which were playfully chasing each other about in the forest with crackling wings. I have seen it taking a leading part in mobbing an Owl (*Syrnium*), accompanied by *Batis erythrophthalma*, *Phyllostrophus milanjensis*, and other forest-species.

It occurs in the Jihu (2000 ft.), where I saw one on August 4th in the Kurumadzi bush, as well as in Northern Melsetter, on Mount Pene, where I noted several in the forest in September (6500 to 7000 feet). They are easily recognisable even at a distance or in gloomy foliage by their peculiar habit of flapping one wing.

At four nests during the present season the sitting bird attempted to lure me away, on three of these occasions feigning a broken wing. Of one I wrote:—"She sat till touched and then, slipping off the nest, struggled along the ground in capital imitation of a broken wing. I followed to see what she would do, and whenever I lagged behind she would get up into some low shrub and call loudly several times, again, on my arrival, struggling along as before. At last, having got me, as she thought, far enough away, she flew up into a low tree and defied me openly. Just afterwards I came across another nest of this Bulbul, containing two recently-hatched young. In this case there was no feigned lameness but real alarm, the female (presumably) keeping up a constant noise (the usual alarm-note 'tyi-tyi-tyi-tyi-tyi, &c.')

accompanied by the usual flapping of one wing, while the male sat there stolidly or moved about with the female but without uttering a note, merely keeping on raising a wing." I have found only two nests supported from below (by a fork and by *Dracena* leaves respectively); almost invariably they are slung from above.

In the young bird the bill is deep sepia, paler at the point (in the adult it is black), the feet pale grey, the gape yellow, and the irides dark brown. An adult female which I secured in August had the feet dark dusky grey instead of blue-grey, quite an unusual thing. I have measured thirteen of these

birds in the flesh, resulting in an average of 7·82 inches and a variation of from 6·5 (a very small female) to 8·5. The nestling (No. 1071), nearly fledged, resembles the old bird in the coloration of its upper surface, but has the breast dusker and mere traces of the future yellow markings. Bill 0·6; wing 2·25; tarsus 0·75.

94. *PHYLLOSTROPHUS MILANJENSIS*. Milanji Bulbul.

Xenocichla milanjensis Shelley, Ibis, 1894, p. 9, pl. i. fig. 1.

Rh., P. In calling to one another these birds will frequently sidle along the branch with little hops, or take a short-paced run along it for a few inches at a time. This is a far more frugivorous Bulbul than *P. flavistriatus*: 26 stomachs have been examined up to the present, of which twelve contained fruits only (those of the forest *Celtis* and of a fine *Maba* are the favourites); seven, fruits and insects; and only seven, insects alone.

Seventeen of these birds averaged 8·04 in the flesh, with a maximum of 8·5 inches and a minimum of 7·6.

95. *SYLVIA SIMPLEX*. Garden-Warbler.

Rh. Between April 3rd and 10th of this year I again twice noted one of these birds in a tall *Solanum*-hedge on the outskirts of Chirinda, working along amongst the upper twigs in search of insects and occasionally stopping to utter its loud and fluent song.

96. *PHYLLOSCOPUS TROCHILUS*. Willow-Wren.

Rh., P. On my return from the low veld this year I began to find this Warbler when ascending through the upper Jihu on the 10th January, and it remained plentiful in the neighbourhood of Chirinda, carefully searching the foliage of my rubber and castor-oil plants and frequenting both grass-jungle (where the foliage of the thorny *Acacias* appears to be particularly attractive) and the outskirts of the forest. It disappeared this year in the middle of March, and last year I did not see any after the 11th of the same month.

97. ACROCEPHALUS ARUNDINACEUS. Reed-Warbler.

P. I secured one of these fine Reed-Warblers in the open bush on the borders of a series of large pools near Chibabava on December 12th. It measured 7·4 inches in the flesh, and the stomach contained beetles and other insect débris.

98. ACROCEPHALUS PALUSTRIS. Marsh-Warbler.

Rh., P. I have hitherto only twice noticed the Marsh-Warbler in Gazaland, securing a male in the open bush near some pools at Chibabava on December 12th, and again on the 2nd February in the long grass near Chirinda, shooting one of a pair which were moving about among the grass-stems like *Cisticolas* and answering one another with a loud, somewhat long-drawn note. The stomachs contained beetles and a small grasshopper. The birds measured in the flesh 6 inches (male) and 5·5 (female).

99. SCHÆNICOLA APICALIS. Fan-tailed Reed-Warbler.

Rh., P. Occasionally seen in the neighbourhood of Chirinda and in the grass-jungle between that place and Spungabera. On taking to the wing it makes a short, low flight and is most difficult to flush a second time, seeming to burrow right down to the very roots of the grass and remaining there till practically trodden on, when it sometimes repeats the manœuvre. The two males in my collection each measured 6·5 inches in the flesh: upper mandible blackish, lower very pale blue-grey; feet pale greyish brown; irides yellowish brown. The stomachs contained beetles and grasshoppers.

100. EREMOMELA SCOTOPS. Dusky-faced Bush-Warbler.

Rh. On the 27th of September, on the Haroni, I shot three of these noisy little Warblers. The first was sitting alone on the top of a large *Brachystegia* before sunrise uttering a loud and monotonous "Tip-tip-tip, &c.," repeated without a pause *ad infinitum*; and the others were secured later out of a large party searching for insects amongst the blossoms of the same trees (*B. randii*); the whole party would constantly break out into a loud bubbling "Nyum-nyum-nyum-nyum, &c.," chasing each other about in great

excitement as they did so. Again, on November 4th, I came across two separate parties within a mile or two of Chirinda, noisily engaged in insect-hunting in the Brachystegias. The four in my collection measured from 4.7 to 4.9 inches in the flesh. Bill black; irides yellowish white; eyelids ochreous chestnut; tarsi and feet light pinkish brown. The stomachs contained minute insects, apparently flies and aphides.

101. CAMAROPTERA OLIVACEA. Green-backed Bush-Warbler.

P. I found this little Warbler to be not un plentiful in the dense bush of the Kurumadzi during August. In appearance it might be mistaken at a little distance for the female of the other common Bush-Warbler, *Chlorodyta neglecta*, but I always found it keeping low in the bush, whereas the other appeared to prefer the higher branches. Its kid-like note varies a good deal, being weak, shrill, and long-drawn in some individuals and in others short and with quick regular intervals, exactly as though one were to squeeze an india-rubber toy goat in and out fairly rapidly several times in succession. I have heard only one which I could have taken for a real kid; the bleat was weaker, but might have been taken for a kid calling at a little distance. At the same time I think that its ventriloquial powers may have been somewhat exaggerated, for personally I have not found the least difficulty in locating the bird from its note.

I also noted this Warbler at Zinyumbo and near the coast within a few miles of Beira.

Length in the flesh 4.1 to 4.25 inches; irides orange-chestnut. The stomachs contained the debris of minute insects.

102. SYLVIELLA WHYTEI. Whyte's Warbler.

Sylviella whytei Shelley, Ibis, 1894, p. 13.

Rh., P. I secured a female on the 1st of December, in the large open bush near the Chibabava rubber-plantation, carefully searching the higher twigs of a *Peltophorum* for insects. Its stomach contained a larva, a small beetle, and

two or three moth-ova. Odendaal has recently sent me another shot by him near Chirinda on April 24th. The three specimens measured 3·7, 3·75, and 3·9 inches, respectively, in the flesh: upper mandible dark sepia, lower pale pinkish grey or whitish, feet pale brownish yellow (in Odendaal's "very pale pink"), and irides brownish yellow-ochre. The stomachs contained a larva, beetles, and ova.

103. *APALIS THORACICUS*. Bar-throated Warbler.

Rh., P. This little Warbler has become a great frequenter of my thorn-hedges, where several pairs may be found at any time searching for insects and calling to one another with their sharp "pee-pee-pee" note. This is usually like a weak edition of the call of *Lophoceros melanoleucus*, though occasionally, for it varies somewhat, it rises and falls like that of our common squirrel (*Sciurus palliatus*), but in this case it is, of course, much weaker. This bird is very common on the Kurumadzi, chiefly in and about the outskirts of the dense bush, and I have found it at Maruma in September searching the Clematis-vines for insects.

I have taken eggs this season which differ from those which I have already described in having large, pale pink spots and blotches on (1) a white, and (2) a pale blue ground. The owner of one of these clutches shewed considerable cleverness. Being doubtful about her identity and having waited in vain to see her, I attempted to trap her, but she made a fresh entrance on one side of the noose (which was quite inconspicuous), and on my twice netting these new entrances up with bark-fibre, again a second and a third time perforated the nest in a fresh place rather than enter by the original opening.

These little Warblers vary noticeably in size, those with the broader band appearing to be always the largest; nine, measured in the flesh, average 4·88 inches, the largest broad-banded bird being as much as 5·2 inches in length, and the smallest narrow-banded specimen 4·25. In the nestling the bill is light brown, the iris deep brown, and the feet very pale pinkish grey. When barely able to flutter (Nos. 1080

and 1081) it already resembles the old bird in plumage, differing chiefly in the fact that the breast immediately below the pectoral band is more strongly tinged with (dusky) yellow than in the adult, and that the yellow of the abdomen is duller and more buffy in tone. The breast-band itself is light dusky brown and inconspicuous. Bill 0·46; wing 1·57 and 1·6; tail 0·77; tarsus 0·78 inches.

104. *APALIS CHIRINDENSIS*. Chirinda Warbler.

Apalis chirindensis Shelley, Bull. B. O. C. xvi. p. 126 (1906).

Rh. I have never seen this Warbler except in Chirinda and Chipete, in the former of which forest-patches it may be commonly seen in the early morning. It varies somewhat in the coloration of its bill, &c., the gonys being sometimes blackish like the upper mandible, at others brownish white, either at the base only or throughout its length. The feet may be pale pinkish brown or pale vandyk-brown, and the irides, too, vary slightly in shade.

105. *CHLORODYTA NEGLECTA*. Eastern Black-breasted Bush-Warbler.

Rh., P. A silent and assiduous insect-hunter, by no means uncommon on the Kurumadzi, where during August I usually found it moving about quietly amongst the higher branches of the thorus or of the denser bush, the conspicuous breast-spot of the male, together with its habits, serving even at a distance to distinguish it from the other common Warbler, *Camaroptera olivacea*.

I noted a pair on the outskirts of Chirinda on October 24th, 1906, at an elevation of 3700 feet.

Bill black, in one case with a white commissure; irides dull orange, wattled eyelids pale brick-red. The stomachs contained, two ant-pupæ, several larvæ, a small weevil, a Cetoniid, and other small insects. Three of these Warblers in the flesh measured in length 4·5, 4·7 (females), and 4·9 inches (male) respectively.

106. *PRINIA*, sp. inc.

Rh. In September of last year and again in April of this I found this noisy Warbler commonly at Melsetter, going about

in very large parties in the dense scrub covering the sides of the ravines. They kept well hidden whilst thus engaged, and while one would be expecting them to reappear near the spot where one had last seen them, they would suddenly emerge with a harsh chattering chorus fifty yards away. Occasionally they would ascend into the branches of the large flat-topped thorn-trees and search their foliage diligently for insects, every now and then breaking out into their loud chattering. They only frequent dense vegetation and were plentiful in the forest-patches and wooded glens of the Chimanmani Mts. and in the Mt. Pene forest in September. I have never found them much below 6000 feet. I may add that *Prinia mystacea*, one form of which appears to approach the present species in coloration, was also common in its ordinary local plumage at the same time in the *grass-veld* of the same localities, singly or in pairs, and the contrast between the habits of the two birds was very striking.

A male in my collection measured six inches in the flesh; its bill was deep sepia, nearly black, its feet light vandyk-brown, and its irides raw sienna: a second, probably a female, measured 5.4 inches. The stomachs contained small flies, a small green caterpillar, and a beetle.

107. *PRINIA MYSTACEA*. Tawny-flanked Wren-Warbler.

Rh., P. More or less common in all portions of Gazaland which I have yet visited, in pairs or in family-parties. I have found it along the streams of the upper Jihu and throughout the grass-jungle of the lower, in the Inyamadzi Valley, at Maruma, and in the Chikamboge Valley, throughout Southern Melsetter, and, in Northern Melsetter, on the Lusitu River and at the township itself. It is equally abundant throughout the low veld, localities which I have specially mentioned in my note-book being—to the west of Chibabava, the Umtefu and Muzala Rivers, and Inyajena; and to its east, Chironda, Boka, the Idunda River, Umhlonhlo, and Inyamita. At Chibabava itself it was fairly plentiful, both in the rubber-plantation and in the open woods, and also frequented the tall *Cyperus* which nearly filled some large pools in the neighbourhood.

The stomachs have contained a borer (*Bostrychidæ*) and other small beetles, larvæ, and small flies, and I once saw one capture a moth on the wing. Ten of these birds averaged in the flesh 5.35 inches, ranging from 4.8 to 5.95.

108. *CISTICOLA CINERASCENS*. Grey Grass-Warbler.

Chindao: "Chitiwa." Singuni: "Itsiyana." Both these names are applied to all Grass-Warblers.

Rh., P. By far the commonest *Cisticola* of the Jihu; in fact, I have up to the present noted no other there, though during my stays on the Kurumadzi in August and November I shot and trapped a long series of these birds. It at once took advantage of the paths which I had cleared through the jungle and was constantly to be found feeding along them. When not engaged in insect-hunting it will sidle with short hops up a tall grass-stem till it topples over with its weight, then on to the next and so on, all the time jerking its wings and tail, which latter, except when the bird is at rest (a rare event), is held upright like a Wren's and is jerked yet further forward with every "cweet" (a loud musical call, Zulu "c") or harsher "trrr"; occasionally the bird will stop to preen its breast-feathers and wings. I once near Chirinda heard a male continually uttering a repeated cicada-like note which was new to me; his mate was replying with the more usual call. Quite a number of these weak-flighted Warblers must be destroyed annually by the great jungle-fires, as when the flames dash up some slope with a roar to consume some particularly dry patch of grass, or, carried by a gust of wind, lick up 50 or 100 yards at one sweep; but under ordinary circumstances the majority certainly escape, some managing to keep ahead of the flames (I have found numbers flying into Chirinda for refuge in front of such a fire, the only occasion in the year on which they enter the forest), and others flying back over them into the burnt area behind. It is wonderful how full of birds of this and other kinds a "burn" will often become as soon as the flames have passed through, all hunting and on the alert for such grasshoppers and other insects as the flames have

roasted and left behind. In the low veld I noticed several of these Warblers between Chibabava and Madanda forests. I have not yet recognised it in Northern Masetter.

The stomachs examined (19) contained small beetles, larvæ, ants, flies, and a spider, but chiefly the first. In the young bird the upper mandible is blackish, the gonyes and the gape pale ochreous, irides dull brown (ochreous-orange in the adult), and feet dull whitish (in the adult pale pinkish brown or pale pink). Twenty-four of my specimens averaged in the flesh 5·1 inches, varying from 4·5 to 5·6.

109. *CISTICOLA ERYTHROPS*. Rufous-fronted Grass-Warbler.

P. I secured a male, the only occasion on which I have seen this Grass-Warbler, at the pools near Chibabava on December 12th, 1906. It measured 5·7 inches in the flesh; bill, upper mandible blackish brown, lower (except tip) whitish; feet palest brown; irides light brown; contents of stomach small beetles and other insects. This species had been previously obtained by Alexander on the Zambesi.

110. *CISTICOLA SUBRUFICAPILLA*. Grey-backed Grass-Warbler.

Rh., P. Unusually plentiful in the neighbourhood of Chirinda during January and February of the present year, both in pairs and in family-parties, evidently the result of a successful breeding-season. They frequented my coffee-plantation in particular, feeding along the ground or peering up under the leaves of the lower branches for such insects as might be hidden there. It is a common species throughout Southern Masetter, though south of the Buzi it has to give precedence to *C. cinerascens*. Between that river and the Lusitu I should judge the two to be equally plentiful, but in Northern Masetter the present is undoubtedly the dominant form. I have noted it along the Nyahode Valley, on the hills to the north of the Lusitu, about the township of Masetter itself, high in the Chimanimani Mts., and on Mt. Pene. It does not appear to occur in the Jihu.

Thirteen specimens measured in the flesh varied in length from 4.75 (an exceptionally small bird) to 5.75 inches, and averaged 5.32. Their stomachs contained small flies, grasshoppers, termites, ants, and especially small beetles.

111. *CISTICOLA RUFA*. Fraser's Grass-Warbler.

P. I first saw this small Warbler at the Zinyumbo pools on November 25th, 1906, flying from one low bush to another continually; twice between that place and the Umtefu River during the next two days; again at the Umtefu in January 1907; and at Mangunde's, 12 miles east of Chibabava, on the 17th of December. The last was a female, which I secured after watching it for some time, while lying under the shade of a low bush awaiting my carriers. It was a most vivacious little bird, never still for an instant and accompanying every movement with rapid jerks of the tail as it searched for insects within four feet of my face. Later in the same month I noted it at Inyamita. All these instances, with only one exception, were of solitary birds, presumably mostly males, their mates being probably engaged at the time in incubating.

My two specimens measured 4.1 and 4.2 inches respectively in the flesh. The upper mandible was brown, the gonyes paler with a whitish base, and the feet were in each case pale brownish flesh-colour; irides "deep ochreous" and "light golden brown," the same colour being probably referred to in each case. The stomachs contained small beetles and other insect débris.

112. *CISTICOLA NATALENSIS*. Natal Grass-Warbler.

Chindao: "Idiwamatoro."

Rh., P. Of the eleven specimens of this Grass-Warbler in my collection the six in typical plumage were shot on the following dates: May 12th, 1905; June 7th, 1905; June 6th, 1906; June 11th, 1905; July 1st, 1906; and July 3rd, 1906. Those in the livery of *C. curvirostris* I got on February 3rd, 1907; March 7th, 1906; March 13th, 1906; and April 3rd, 1906 (two males with highly developed testes and with no indication yet of a change to *C. natalensis*).

During the latter months the bird may frequently be seen perched on the top of a *Parinarium* or other small tree in the open grass, slowly repeating "Trweeee! trweeee!" &c., each note being accompanied by a nervous little movement of the wings and answered sometimes by the same note from another tree, often at some distance away.

The contents of ten stomachs examined were larvæ, mostly large, a mantis, a small centipede, small flies, grasshoppers, and beetles, chiefly the latter, including two specimens of the *Colasposoma* which is so destructive to our young cypresses and eucalypts. Seven birds measured in the flesh, and varying from 5.25 to 6.25 inches, gave an average of 5.9.

113. HELIOLAIS ERYTHROPTERA.

Heliolais erythroptera Reichenow, Vög. Afr. iii. p. 570.

P. On August 10th, 1906, I shot a male of this species in grass-jungle on the Kurumadzi, elevation 2000 feet; it was one of a pair which were moving about and feeding in company with one of the usual loose flocks of small birds, and on the 12th I secured two further specimens at about the same spot. They were very conspicuous birds, the creamy white of the breast and the bright chestnut wing-patch being recognisable at quite a distance, and they were by no means shy or retiring in their habits, moving about high in the grass-stems and sometimes settling in trees. Their note, which was frequently uttered, was a loud smart "Pee-pee-pee-pee-pee!" a little like the commoner call of *Apalis thoracicus*.

In the low veld I noted this bird at the Zinyumbo pools on November 25th, and on the following day in open bush on the Mwangetzi River, while later again I saw it near Chimbuya. Length in flesh 5.2, 5.35, and 5.5 inches respectively. My specimens shewed some variation in the colour of their bill, the upper mandible in two cases being light brownish grey, the lower paler grey, while in the other two only the base of the latter was whitish and the rest of the bill dusky brown; irides (of all) ochreous-orange, eyelids the same, but duller; feet light sienna-yellow in three, in one palest orange-brown. The four stomachs contained beetles and

small larvæ. This species has not been recorded previously from south of Nyasaland.

114. SPHENÆACUS NATALENSIS. Natal Grass-Bird.

Rh. I have up to the present noted only one of these birds, a male which I shot in a kloof near Melsetter on September 22nd, where it was perched quietly on the upright stem of a *Dombeya*. It measured 7·2 inches in the flesh; the upper mandible was deep sepia, the lower, as also its feet, pale bluish; irides carmine. The débris of beetles and a large hairy Bombycid caterpillar filled the stomach.

115. TURDUS MILANJENSIS Shelley. Milanji Thrush.

Turdus milanjensis Reichenow, Vög. Afr. iii. p. 688.

Rh. I made some mention of the habits of this, the common Thrush of Chirinda, in my last paper under the erroneous heading of *T. cabanisi* ('Ibis,' 1907, p. 60).

Eight of these birds averaged 8·45, ranging from 8·15 to 8·9 inches in the flesh. Bill—upper mandible brown, its commissure and the whole of the lower orange; feet deep raw sienna, the back of the tarsus gamboge; irides brown. Seven stomachs examined contained a weevil, a centipede, small beetles, a large Elaterid larva, Diptera, Melolonthid and other larvæ, a large millipede, snails (including fragments of a large *Achatina*), and the berries of *Celtis* and of a large *Strychnos*.

This is a Nyasaland species and new to South Africa.

116. TURDUS TROPICALIS Ptrs. (*T. libonianus* of my last paper, 'Ibis,' 1907, p. 60). Peters's Thrush.

Turdus libonianus tropicalis Reichenow, Vög. Afr. iii. p. 693.

Rh., P. I shot one of these birds (the common Thrush of Southern Melsetter) on the Kurumadzi in November: it was hunting for insects in the clods of a recently-hoed field in the early morning, after the manner of the English Thrush. I also saw it at Gezanye, between Chibabava and the Madanda.

Bill and eyelids bright orange; tarsi and feet rather variable, usually some tint of raw sienna tinged with brown or

flesh-colour. Eight of these Thrushes averaged in length 8·47 inches, with a maximum and minimum of 8·25 and 9·5 (an exceptional specimen) in the flesh.

117. *MONTICOLA ANGOLENSIS*. Angola Rock-Thrush.

Rh., P. A fairly common resident species, chiefly found up to the present in the *Upaca* groves in the neighbourhood of Chirinda, and in those between the Inyamadzi and Buzi Rivers, where, though distinctly shy, it is fairly common, its orange abdomen and blue head and back being conspicuous at a distance. I also once saw one in the upper Jihu. It flies straight up into the nearest tree on being disturbed.

Four males average 7·68 inches in the flesh, varying from 7·5 to 7·85, and two females measured 7 and 7·25 inches respectively. The stomachs contained the débris of beetles, a number of large winged termites, a large beetle-larva, and remnants of ants and other insects.

118. *PRATINCOLA TORQUATA*. South African Stone-Chat.

Chindao: "Mucherechedza-badza" (ply-the-hoe).

Rh., P. I have seen the Stone-Chat fairly frequently in the upper Jihu, at Maruma, and in the Chikamboge Valley, as well as throughout Northern and Southern Masetter, but I have never yet found it in the lower Jihu. Its full song, uttered while in the air and descending to its perch, is a loud "Chwe-chwe-chwe-tsee!" (the last note clear and piping); it is apparently the first, which is often repeated many times and is rendered by the natives as "Chere-chere" &c., which has gained for this bird its somewhat fanciful native name. I have measured eighteen of these birds, ranging from 5 to 5·7 inches in the flesh and averaging 5·4; and the same number of stomachs have contained flies, a bug, beetle- and moth-larvæ, ants, two hard seeds, a small millipede, a small centipede, grasshoppers, and beetles, sometimes entire, including a Cetoniid.

119. *SAXICOLA PILEATA LIVINGSTONII*. Livingstone's Wheatear.

Rh. These Wheatears were particularly plentiful in mid-

September on the fresh green "burns" between the Chipetzana and Lusitu Rivers, especially on one which had only been burnt a few hours before, and were apparently in the gayest of humours as though rejoicing at this latest addition to their playground. They would soar sometimes to as high as forty or fifty feet, descending again like a Lark with outspread wings and song: "Che-che-che-che-tewheeee-tewheeee-tewheeee-tewheeee!" (piping notes), alighting on rocks, low bushes, and ant-heaps. Or they might be seen in all directions standing bolt upright on any prominent object, flirting their wings and calling to one another. Those near the path allowed us to pass within four or five yards without moving. They were equally common along the upper Nyahodi a few days later, and may in fact be found, in the winter, throughout Northern and Southern Masetter, wherever the ground has been burnt. I have not noted them in the Jihu.

A male measured 6.6 inches in the flesh, and the stomach contained grasshoppers and beetles.

120. *SAXICOLA FAMILIARIS*. Familiar Chat.

Rh. I found these Chats in some numbers amongst the crags of the Chimanimani Mountains, at a height of about 6500 feet, on September 26th, securing a female, and it was probably this species which had made the cliffs ring in all directions with its song in the early morning when the mist was too dense to permit of my seeing ten yards in front of me. My specimen measured exactly six inches in the flesh; its bill was grey-brown, its irides reddish brown, and its feet black, and the stomach contained three large cockroaches, two larvæ, a large weevil (entire), and a number of termites.

121. *COSSYPHA NATALENSIS*. Natal Robin-Chat.

Rh. I had supposed that the Natal Robin-Chat left us for the winter, and certainly I had never heard, seen, or trapped it during that season, though during the breeding-season they are common enough and come readily to traps. I was consequently surprised when, on the 18th June, one of my natives brought me a male which he had just trapped in Chirinda. Probably a few late-hatched birds stay; one still

meets with young birds in completely immature plumage late in March. Last year this Robin-Chat arrived either late in September or early in October, and from that time on its pleasant "Trec-tro! Tree-tro!" was to be heard everywhere in Chirinda and Chipete. I had also good proof of its imitative powers. Odendaal was ploughing on the outskirts when he heard in the forest what he took to be a large Eagle, which sometimes sails high overhead keeping up a long-repeated modulated call, and, knowing that I required a skin, sent for my shot-gun and did all he could to find it, but without success, though the notes still went on. The imitation was certainly perfect; I noted it myself the following day at the same spot on the part of a *Cossypha* which I was watching. It would occasionally exchange its "Tree-tro" for the Eagle's whistle, which it would then usually keep up for quite a long time. Six of these birds averaged 7.32 inches in length, with a range of from 7.1 to 7.5, in the flesh. Beetles, *Celtis*-berries, driver ants (*Anomma* sp.), and a small wire-worm were amongst the contents of their stomachs.

122. *COSSYPHA HEUGLINI*. Heuglin's Robin-Chat.

Rh., P. As well as in most parts of Southern Masetter I have noted this Robin-Chat on the Inyamadzi and in the Nyahodi, Lusitu, and Haroni Valleys, and, in the low veld, at Chibabava, where it is fairly common, and at Gwaragwara. In the lower Jihu it is particularly plentiful, and, during my stay there in August, quite a chorus of its songs, mingled towards sunrise with the liquid calls of the various Bush-Shrikes and the warbling notes of the Sun-birds, would rise every morning from the jungle-covered slopes on either side of the stream. It is by far our finest local songster, and, to my mind, not one of our boasted English song-birds, hardly the Nightingale, is to be classed with it for a moment. It begins to sing just after the first streak of dawn appears and continues to do so for little more than half an hour, ceasing before sunrise in order to commence the day's business. During the remainder of the day it remains comparatively silent, uttering only occasionally, perhaps a few times in

succession, one of its commoner flute-like notes as "Pipe-whit! pipee-whit!" with its many variations. I had the great good fortune to pitch my camp on the Kurumadzi just beside the haunt of one of these charming songsters, and I would lie awake every morning before sunrise listening to its song. It possessed a wonderful variety of notes, as even the following renderings of only a few of them may serve to indicate:—

"Poplo-plívié, poplo-plívié," repeated several times.

"Plívi-plóho, plivi-ploho, plivi-ploho, plivi!"

"Yupértruée! yupertruce! yupertruce!"

"Ho wheerdle ho whee-ho! Ho wheerdle ho whee-ho!
Ho wheerdle ho whee-ho! Ho wheerdle ho whee!"

"Poppity jwin!" (three times). "Whor-ho-hee!" (repeated).

Perhaps the most striking feature of the song is that these notes are frequently accompanied by a high long-drawn "Wheee-wheee-wheee" or sometimes "Plee!heplee! heplee!" particularly at the end of the song, which usually begins low and gradually increases in volume. I at first took this to be in the nature of a duet, scarcely believing it possible that one bird could produce both sets of notes at the same time, but I have now had several opportunities of observing the bird while singing, and have little doubt that it does so.

Young birds trapped at the end of March had already nearly completed the change to adult plumage.

On the 12th December, 1906, I found a nest of this Robin three feet from the ground, in the head of a thick branching stump of "Umtalala" (*Lecaniodiscus*) overhanging the mud at the edge of the pools near Chibabava, and, with other trees, forming a dark tunnel by the meeting of their branches and the sedge. The nest was formed externally of a quantity of twigs and dry leaves loosely massed together and lined with the fine midribs of dry leaves, and measured 2·8 inches in diameter, with a cup deep in proportion (1·85 inches) and coming to rather a point at the bottom. The eggs were two, light reddish brown at first glance, though a close reexamination of one of them shews that its rather uneven colour consists of a conglomeration of fine cloudings hiding the ground-colour.

They measured 22 mm. by 16 and 15·5 respectively. The bird sat lightly, flying down into the mud directly anyone approached and thence back into the woods.

The feet of this Robin-Chat are dusky or brownish grey, in one case purplish grey. The stomachs contained, in addition to my list in the 'Ibis' for January 1907, larvæ, grasshoppers, wood-lice, ants, and berries of *Celtis* and *Antidesma*. Thirty-seven specimens averaged in the flesh 7·96 inches, varying from 7·15 to 8·8 inches in length.

123. *COSSYPHA HUMERALIS*. White-shouldered Robin-Chat.

Rh., P. One of these rare grey-and-white Robins was brought to me on April 9th, 1906, having been trapped by one of my cattle-herds near Chirinda. It measured 6·8 inches in the flesh; bill black, feet blackish, irides dark brown. And I again saw what I took to be one of these birds in the grass-jungle bordering the Kurumadzi on August 1st of the same year.

124. *CICHLADUSA ARCUATA*. Morning Warbler.

P. I saw three or four of these birds, always singly, at deserted Kafir kraals when marching from the Idunda River to Umhlonhlo, on December 20th. They were in every case feeding on the ground and flew up into low trees on being disturbed. I secured one specimen (No. 1182). This species had been previously obtained on the Zambesi by Peters and Alexander.

125. *TARSIGER STELLATUS*. White-starred Bush-Robin.

Rh., P. In August I found this Robin to be very common in the dense bush of the lower Jihu, trapping several by means of Melolonthid larvæ. A number of immature birds trapped in March had already practically completed the change to adult plumage, but a winter brood is probably sometimes produced, as I have trapped a young bird in complete spotted plumage in July, and on August 10th I shot a female with its ovaries very strongly developed. On the 20th of the same month I watched one catching driver-ants (*Anomma* sp.) in company with two Flycatchers; in its

movements and actions it strongly resembled the English Robin, but was perfectly silent throughout.

I again found four of these nests during the past season, one of them in a clump of *Asplenium furcatum* within a foot of a last-season's nest. In situation, construction, and materials they exactly resembled those described in the 'Ibis' for 1907 (p. 66), and the same applies both to the eggs and to the behaviour of the birds at the nest. Levaillant was therefore undoubtedly wrong in his description of the nest and eggs (*vide* W. L. Selater, Fauna of S. A., Birds, ii. p. 219). I have examined 55 stomachs in all, which, in addition to the objects detailed in my previous paper, contained a moth, a wasp-like dipterous insect, a bug, a small coprophilous beetle, a wasp, and seeds. Beetles, however, form this bird's main food, with, when they are in season, the berries of the large forest *Celtis*. In the young bird the bill is a not very dark vandyk-brown, instead of black as in the old bird; the iris slightly darker brown; toes and tarsi also vandyk, but quite pale, the back of the tarsus, knee-joints, and toes tinged yellow; soles yellow. Thirty-five of these Robins measured in the flesh gave an average of 6.36 inches, with a variation of from 5.9 to 6.75, while a somewhat abnormally large bird measured 7.12 inches and an immature bird 5.5.

A bird trapped in Chirinda on May 28th, 1905 (No. 290), was coloured in rather a curious manner, looking as though it had lain for a long time in spirits; but as at that time numbers of these Robins were coming to my mammal-traps, and this was the only aberrant individual out of a long series taken at the same spot, I am convinced that it was a mere "sport" and not specifically distinct. Head dark grey-blue, but slightly lighter than in typical form and not extending quite so far back on to the nape. Wherever the typical bird is bright yellow this specimen is cream-colour, and the bright yellowish olive of the former's back is here replaced by ashy grey tinged with greenish. In its measurements it is much the same: culmen 0.7, wing 3.5, tail 2.54, and tarsus 1.04 inches.

126. ERITHACUS SWYNNERTONI. Swynnerton's Robin.

Erithacus swynnertoni Shelley, Bull. B. O. C. xvi. p. 125 ; Swynn. Ibis, 1907, p. 61, pl. i.

Rh. I have never found this Robin up to the present except in the two forest-patches of Chirinda and Chipete. In common with *Tarsiger stellatus* it comes very readily to traps, and I was forced to discontinue trapping for small insectivorous mammals in the forest owing to the wholesale though unintentional destruction of these two Robins which was resulting from it. This species, too, is being tempted out of the forest by my planting-operations, and during April of this year several pairs were to be found daily working their way along the hedge-bottoms near Chirinda in search of insects, and uttering in addition to their usual note a small sibilant "si-si-si," accompanied by a frequent little flutter of the wings. Their only approach to a song, so far as I have been able to ascertain, consists of the ordinary somewhat plaintive call-note repeated several times in succession somewhat loudly.

I have again examined a large number of the nests of this Robin during the past season. Of these, two were placed in the hollows of trunks of trees, one, after the fashion of a Tree-creeper, between the woody stems of a climber and the trunk of a fair-sized *Gardenia tigrina*, and all the rest, as described already ('Ibis,' 1907, p. 61), either in Dracenas or between the suckers springing from the sides or tops of stumps, both of these situations being apparently equally popular. I have found one nest containing three eggs, the clutch consisting in all other cases of only two. In a few instances the birds were exceedingly bold and demonstrative at the nest, the female always taking the lead, but this appears to be the exception rather than the rule. The stomachs examined (37) have contained Elaterid larvæ, wood-lice, termites, beetle-larvæ, ants (including numbers of a black stinging wood-ant), grasshoppers, a bug, moth-ova, *Celtis*-berries, Geometer and other moth larvæ, small snails, a very small millipede, a somewhat large centipede (entire), and quantities of beetles. Twenty-nine of these Robins averaged 5·39 in length in the flesh, varying from 5 to 5·8 inches.

127. *ERYTHROPYGIA LEUCOPHYRS*. White-browed Ground-Robin.

P. In December, 1899, I secured one of these Robins (No. 198) in Mafusi's district at an elevation of 4000 feet.

128. *ERYTHROPYGIA ZAMBESIANA*. Zambesi Ground-Robin.

P. I found this bird to be not uncommon in the lowlands proper, noting or obtaining specimens in December and January at Chibabava, Muchukwana, between Muchukwana and Chirinda, and on the Umtefu River. They appear to prefer the denser clumps of bush in open woods and have a curious habit of every now and then flirting their tails up vertically and retaining them in that position for a few seconds while quivering the wings. My two specimens each measured 5·9 inches in the flesh; irides dark brown; upper mandible sepia, lower yellowish except point; feet light grey; a stomach contained beetles and other small insects.

129. *MUSCICAPA CÆRULESCENS*. Blue-grey Flycatcher.

Rh., P. I have on several occasions come across this Flycatcher during the past year in the neighbourhood of Chirinda, both in the open Munzhanshe woods of the northern slope and on the outskirts of the forest itself, usually single individuals, though occasionally pairs and once or twice a party of three. I also found it common in the bush on the Kurumadzi during August, keeping chiefly to the higher branches. It has a weak sibilant note and a short song, comparatively seldom heard, which is practically a short and feeble copy of that of *Batis erythrophthalma*. Four averaged in flesh 5·9 inches: iris brown; feet rather dark leaden-grey or sepia, rather duskier on toes; upper mandible black or blackish, lower pale bluish grey. Contents: large black ants, beetles, and large termites.

130. *ALSEONAX SUBADUSTUS* Shelley.

Alseonax subadustus Reichenow, Vög. Afr. iv. p. 458.

Rh. During the past year, and particularly during the winter months, I have noted this Flycatcher, previously recorded only from Nyasaland, on quite a number of occasions, frequenting the open woods of Munzhanshe (*Uapaca kirkiauu*)

which clothe the northern and western slopes of Chirinda ; and Mr. Stanley informs me that he has obtained it at Mafusi. They are usually in pairs, and call to one another with a weak sibilant note. On the 20th of August, in a cleared space on the outskirts of the forest, I watched one of these birds for some time feeding, in company with *Tarsiger stellatus* and *Trochocercus albonotatus*, on a particularly fierce and powerful species of ant (*Anomma* sp.), a column of which were crossing the patch on one of their raiding-expeditions. The birds would fly down and, hurriedly picking up two or three of the skirmishers from the flanks of the column, return to their bases in a neighbouring *Solanum* hedge or the surrounding high weeds, before the ants had time to attack them. Two specimens in my collection each measured 4.6 inches in the flesh, bill and feet black or blackish, base of lower mandible pale brown, irides dark brown. The stomachs contained small diptera and beetles, and ants.

131. CHLOROPETA NATALENSIS. Natal Yellow Flycatcher.

Rh. On July 29th I shot a female amongst the long grass near the summit of Chirinda, about 80 yards from the forest itself and near no other trees. It was perching on the grass-stems, and struck me as behaving much more like a Grass-Warbler than a Flycatcher. It measured 5.6 inches in the flesh, and the stomach contained small beetles.

132. SMITHORNIS CAPENSIS. Cape Broad-bill.

Rh., P. During the past year the Cape Broad-bill has proved to be fairly common both in Chirinda and in the wooded kloofs surrounding it, and between it and Spungabera. On the Inyamadzi I heard it calling in a spot where the ordinary trees of the open woods were growing more densely than usual. I met with it several times in the small forest-patches of the Chikamboge Valley, and at Maruma I came across it frequently, both in the forest-patch itself and in the denser bush, and even in low scrub to the east of Mr. Dierking's coffee-plantation. Finally, in the lower Jihu it is quite one of the commoner birds of the denser bush. In the low veld it was common both in the *Brachystegia*

bush at Arucate and in the Madanda forests, and I also met with it on the Muzala, at Muchukwana, and at Malata. It is to a very large extent a ground-feeder, in spite of the fact that in the evenings it may often be heard calling high in the trees of Chirinda: evidence for this is that it can be trapped very readily by means of stone dead-falls baited with Melolonthid larvæ and that a somewhat large series of its stomachs which I have examined proved to contain a considerable proportion of ground-frequenting insects. I have also several times watched it keeping within five or six feet of the ground, noting on one of these occasions in my diary that "the bird kept low and mostly within two feet of the ground—it never rose to more than four feet,—now sitting perfectly still with its head down between its shoulders, now taking short flights from twig to twig and keeping the ground below it under observation, and again at intervals uttering its loud cry accompanied by the usual circular flight. Once it suddenly dropped to the ground, dashed the dry leaves to one side and the other by two or three rapid sidelong blows of its bill, and returned to its perch a foot above the ground with a fair-sized object in its mouth. This it smashed once or twice against the twig and swallowed." It is a somewhat lethargic bird, sitting still on a twig sometimes for many minutes together with only a slight upward quiver of the wings at intervals, and on the Kurumadzi a male once allowed me to pass thus only five or six feet below him, apparently trusting to his immobility to escape notice.

Its note (which is heard throughout the year) and its peculiar display are, however, the most interesting points about this Flycatcher. The former is remarkably loud for such a small bird and at a little distance strongly reminds me of one of the calls of *Turtur capicola*; not the Dove's full "ko-korro!" but its shorter and harsher stridulous note, which is actually more frequently heard. I have seen the Flycatcher's call represented by the syllable "kroo," which gives a fair idea of it as heard at a distance; but at close quarters the spelling "karuérr!" with a strong roll throughout, more exactly represents the sound. Usually the bird is

being replied to by its mate at some distance away, and on one occasion in the Chikamboge Valley I watched three birds all calling to each other. The call is invariably accompanied by a short circular flight of two or three feet in range either from left to right or *vice versa*. This flight is usually little above the horizontal (not, as the Woodward's account, *vide* W. L. Selater, Fauna of S. A., Birds, ii. p. 249, would seem to imply, a vertical leap from the branch), the bird returning sometimes to the same twig, sometimes to another. When about to fly to another tree, or to make one of its call-flights, it first leans forward and pauses slightly or sometimes faces right round, immediately before making the flight. The birds call most in the morning and evening, especially the latter, keeping comparatively quiet during the hotter hours. On the Kurumadzi in the evenings one might hear their cries in every direction, not only in the denser bush but from isolated trees standing in the grass-jungle, and this would be kept up till dark. My friend Dr. Thompson, who observed one of these Flycatchers on the Inyamakunga, a stream near Chikore, lately suggested to me that the peculiar call was caused partly, if not wholly, by the vibration of the wings—so different, he observed, on these occasions to the bird's ordinary steady flight. I had the opportunity shortly afterwards of watching a pair *in flagrante delictu* for a considerable time, the female particularly at very close quarters (five or six yards). The whirr of the wings could be heard every time quite separately, the loud stridulating sound, which is all that one hears at a little distance, being made by the vocal organs. Again, in merely moving from branch to branch, the birds did occasionally vibrate their wings in the manner of their circular flight, this vibration, which is not particularly loud, being then heard alone. Nine Broad-bills averaged 5.93 inches in length in the flesh, ranging from 5.5 to 6.12. Feet dull olive-green, sometimes greyish in tone, in others yellowish; irides dark brown; bill—upper mandible black, lower pinkish white veined with purple.

Mr. G. A. K. Marshall informs me that the contents of

three stomachs of this species which I sent him were as follows :—

“ No. 889. 5 crickets, 1 young grasshopper (Acridian), 2 lepidopterous larvæ, 1 ant.

“ No. 898. 2 green Locustids (probably living on bushes), 2 young Acridians, 2 mantises, 3 lepidopterous larvæ, 1 spider, 2 ants, 1 frog-hopper, and 2 beetles (1 wingless, *Opatrium arenarium* F.; 1 winged, family *Anthribidæ*).

“ No. 899. 4 bugs, 2 frog-hoppers, 2 lepidopterous larvæ, 2 Locustids, 2 small mantises, and 1 ant.”

133. *PLATYSTIRA PELTATA*. Green-throated Flycatcher.

P. During September of 1906 I twice saw this rare Flycatcher at Maruma, and a few days later noted a male in the dense scrub near the Chikamboge and a pair in the Inyamakuwla forest-patch in the same valley, securing the female. On first missing her the male for half an hour or more searched the forest-patch from end to end, at first remaining persistently for some time in the neighbourhood of where he had last seen her, uttering all the time a harsh “ Wech-wech-wech, &c.” (German “ ch ”), quickly repeated. Again, on November 29th, I secured a male, evidently breeding, in a large shady *Trichilia* in the Chibabava plantation, at the same shot unexpectedly killing a rare Bat.

The bill of this Flycatcher is black, the tarsi and feet (in the breeding male) grey, deepest in tone on the curiously-wrinkled toes, where it is also strongly tinged with cobalt. Irides deep purple-grey, in the Chibabava bird nearly black, with a narrow silvery ring round the pupil. The back of the eye-wattles, except the actual margin, which is bright red as in front, is dull light yellow. Length in flesh 5·5 and 5·7 inches. The three stomachs examined contained small beetles and flies.

134. *BATIS ERYTHROPHALMA*. Red-eyed Cape Flycatcher.

Batis erythroptalma Swynnerton, Bull. B. O. C. xix. p. 109.

Rh., P. This is the *Batis dimorpha* of my recent paper in this Journal (1907, p. 69), Captain Shelley, who had then

only seen the female, having referred it to that species on the strength of the colour of the iris. Actually it closely resembles *Batis capensis*, from which it appears to differ only in its smaller size and the colour of its irides, which in the male consist, as a rule, of two rings of colour—the outer, which is also usually the widest, being vermilion, and the inner orange. In the female the irides are carmine or crimson, usually slightly dusky in tone, owing to the suffusion inwards of a brown-madder ring which surrounds them, and are often separated from the pupil by a fine silvery line corresponding to the orange ring of the male. Out of a large number of specimens secured I have only once noted an iris diverging at all widely from the above. This belonged to a female shot in March of this year, and consisted of a dull grey ring surrounded by a narrow one of dull ochreous; but as the pupil was also somewhat obscured, I judged the aberrant coloration of the iris to have been due to some defective condition of the eye. The bill and feet are black. I have never found this *Batis* in the low veld proper, but it ranged from the Jihu, where I noted it in dense bush on the Zona in November, 1905, at an elevation of 2000 feet, to Northern Melsetter, where I shot a male at nearly 7000 feet in the Mt. Penc forest-patch on September 28th, 1906. It is the commonest Flycatcher of Chirinda, and may be found throughout the district in the forest-patches and densely-wooded glens, and it visits our homesteads to a larger extent than any of our other characteristic forest-birds, frequently haunting clumps or plantations of Eucalypts in pairs for days together, and visiting our orchards when the peach- or orange-trees are in bloom for the sake of the insects that are attracted to the blossoms.

I have already described the nest. There is little or no variation in the materials employed, but the lining of very fine branching stems may be either very profuse or scanty, the cup in the latter case being somewhat deeper. There are two distinct types of egg—one, which I have already described and have since again taken, with vandyk-brown markings; the other, of which I took a clutch in the

Chipete forest-patch on the 30th of October, pure white in ground-colour, with a median zone of small spots and blotches of purplish grey intermixed with pale blotches and a few darker spots of a rich reddish brown, almost brick-red, the two ends of the egg being comparatively free from spots.

During the breeding-season especially the bird is a very persistent songster, and its quaint mechanical song may be heard still going on into the evening when it is already practically dark. Both sexes sing in concert or in reply to one another, and if one should be shot the other will continue to sing for two or three minutes, more and more vehemently, until, finally alarmed by receiving no answer, it begins to search for its mate in ever-widening circles with a constantly-uttered short sibilant call. The female sits close, and when she is flushed both birds will continue to fly about the intruder in great excitement so long as he remains near the nest, always, however, keeping close to one another.

The stomachs examined have contained flies, beetles, caterpillars, and beetle-larvæ, an enormous beetle-grub, swallowed entire, once completely filling a stomach. Eight birds measured averaged 4.7 inches, varying from 4.25 to 5.

In the following figures the average is in each case taken from nineteen specimens measured:—Culmen 0.6 to 0.66 inch (type 0.65), average 0.62; wing 2.20 to 2.47 (type 2.4), average 2.35; tail 1.55 to 1.75 (type), average 1.66; tarsus 0.67 to 0.85 (type), average 0.73.

135. *BATIS MOLITOR*. White-flanked Flycatcher.

Rh., P. Common throughout Southern Masetter and on the edges of the bush of the lower Jihu. I have also noted it in the upper Jihu, in the Haroni Valley, and, in the low veld, at the Umtefu River and at Inyanita. Five specimens averaged 4.63 inches in the flesh, varying from 4.4 to 5.15. The iris is usually lemon-yellow, but in a female shot on the 25th June, 1905, it was mottled over with light green and was bright yellow only immediately round the pupil. A small ichneumon-fly, a large ant, small beetles (including *Agrius* sp.), a small wasp, a large wasp, flies, frog-hoppers, and larvæ have been contained in the stomachs examined.

136. TROCHOCERCUS MEGALOLOPHUS. Jihu Flycatcher.
(Plate II.)

Trochocercus megalolophus Swynnerton, Bull. B. O. C. xix.
p. 109.

Rh., P. My first specimen of this new Flycatcher was a female, trapped by means of a stone baited with a large larva in Chirinda on June 26th. This is the only instance I have met with in the high veld proper, but during my stay on the Kurumadzi in August I found it to be fairly common in the dense bush of the lower Jihu and secured several specimens. It much resembles *T. albonotatus* in its general habits, making short flights after insects or from tree to tree and spreading its tail as a display. Its commonest call is a harsh Drongo-note (much weaker, however), repeated quickly two, three, or four times, and sometimes, but rarely, winding up with a pretty liquid note, rapidly repeated three or four times in succession. A male which I found insect-hunting at the base of a large tree was constantly uttering a little plaintive note greatly resembling that of *Erithacus swynnertonii*, for which I mistook it until I managed to locate the utterer. Though they are usually very tame, another male which I secured on August 8th shewed considerable cunning. It was continually uttering the Drongo-note, repeated twice only and without the final call, but, on seeing that it was observed, immediately became silent and kept flying off, keeping under cover the whole time with remarkable cleverness till I managed at last to get a hasty shot. The stomachs have always contained small flies.

The following is a full description of this Flycatcher:—

Adult male. Whole head, crest, throat, and chest black, heavily glossed with metallic greenish blue. Nape, lesser wing-coverts, scapulars, back, rump, upper tail-coverts, and tail ashy grey, the first two lightly glossed with metallic greenish blue. In one specimen the whole of the grey portions of the upper plumage, including the grey outer webs of the wing-quills, is yet more lightly, though quite noticeably, glossed with the same metallic shade. Lower breast, abdomen, under tail-coverts, and greater portion of



West, Newman imp.

TROCHOCERCUS MEGALOLOPHUS, ♂, ♀.

flanks white. A varying number of feathers (3 to 6) in the greater wing-coverts are entirely white, forming a conspicuous alar patch, which is, however, smaller than in *Trochocercus cyanomelas*. Somewhat broad edgings to the remaining feathers of the median and upper coverts result in two parallel white lines carried forward towards the edge of the wing. Quills dusky, the outer webs edged with grey, which in the inner secondaries occupies the whole of the outer web; in most of the quills the basal half of the inner web is also edged with light grey. Secondaries very narrowly tipped, really noticeably only in the two or three inner feathers, with dull white or light grey, in one specimen only on the outer web. Under surface of the quills, both of wing and tail, grey. Under wing-coverts white, the bases and inner webs of a few of the plumes grey. Edge of wing either grey or mottled grey and white. Total length (of skin) of type specimen 5·8 inches; culmen in each of four males exactly 0·6; wing 2·65, 2·67, 2·77, and 2·75 (type) respectively; tail respectively 2·76, 2·85 (type), 2·9, and 3·1; tarsus in type 0·85, but in two others 0·63 and in the fourth 0·65.

Adult female. Differs from the male in its shorter crest (1·2 inches), which is grey like the back and but slightly washed with a steely metallic gloss; in the browner colour of the quills, particularly those of the wing; and in the almost total absence of the white alar patch. Throat and chest whitish with grey margins to the feathers, giving the whole a mottled appearance. No whitish tips to the secondaries. Culmen 0·6 inch, wing 2·55, tail 2·6, tarsus 0·77.

Eight of these birds (measured in the flesh) averaged 6·2 inches in length, varying from 5·7 to 6·6.

Bill light bluish, the forward part of the upper mandible black; feet blue-grey, with a distinct cobalt tinge; irides dark brown. In the female the upper mandible is black with only the extreme base blue, the lower grey-blue with a black tip.

This Flycatcher appears to be most nearly allied to *T. cyanomelas*, from which, however, it differs in its far

longer crest (1.45 inches), the greater whiteness of its lower breast and abdomen, and the clear grey instead of greyish-brown colour of the wing-quills and tail. The metallic blue-black of the throat also comes right down on to the breast in the present species, and the secondaries have narrow dull white tips which are lacking in *T. cyanomelas*.

137. *TROCHOCERCUS ALBONOTATUS*. White-spotted Flycatcher.

Trochocercus albonotatus Shelley, B. Afr. i. p. 99.

Rh. I have noted this Flycatcher only in Chirinda (and Chipete), and this is, up to the present, the only locality from which it has been recorded south of the Zambesi. Its flight is frequently characterized by a purring sound. On April 3rd one of these birds was seen by Odendaal to dart out from the trees at the edge of Chirinda at a butterfly (*Mylothris*) flying past a few feet away, but to turn back on reaching it without an attempt at capture. *Mylothris* being one of our distasteful genera and at the same time possessing quite a distinctive flight, the fact that the *Trochocercus* flew at it at all seems to indicate that birds are liable to be guided as much by the mere colour as by the flight of an insect. Had it proved to be a *Belenois* it would probably have been taken.

The measurements in the flesh of two specimens in my collection were 5.12 and 5.5 inches. Bill and feet black, irides dark brown.

138. *TERPSIPHONE PLUMBEICEPS*. Lead-headed Paradise Flycatcher.

Tchitrea plumbeiceps Reichenow, Vög. Afr. ii. p. 510.

Chindao: at Arucate "Chinyamtambo"; on high veld "Izwezwi." Singuni: "Ive."

Rh., P. This is the common Paradise Flycatcher of both our high and low veld, none of the specimens which I have obtained up to the present being referable to the closely-allied *T. perspicillata*. In November to January I noted it in the Zinyumbo Hills (a party), on the Mwangezi, at and

about Chibabava, and at Gezauye (two males together). I also observed it at Maruma, and Mr. Brent tells me that a pair frequented the trees at his homestead on the Lusitu (Northern Melsetter) throughout last season, becoming exceedingly tame and frequently using the sill of the open dining-room window as a base of operations. They would reply when called to, and became quite excited and angry when their note was wrongly imitated.

A breeding male in my collection measured 17·8 inches in the flesh and two females 7·3 and 7·15 respectively. In the female the bill is somewhat light cobalt-blue, with a black tip to the upper mandible, and the feet similar but rather duller; the eyelids are cobalt and the irides dark brown. In the live male the bill and eye-wattles are very bright cerulean-blue, assuming a more cobalt tinge a little time after death; extreme tip of upper mandible blackish. The feet are a bright blue-grey. The stomachs have contained small beetles and winged termites.

I found a nest of this Paradise Flycatcher in a secluded glen near Chirinda on Nov. 7th, 1906. It was a neat nest and occupied the small fork, about 12 feet from the ground, of a lateral twig of *Dracæna reflexa*, and was immediately overhung by the large shady bough of another tree. Externally it was composed of soft grass-blades, worked round horizontally, and of a little moss, the whole plastered over and cemented together with spider's web and ornamented with numerous pieces of pale blue-green lichen. Where the material met the supporting twig no braces were carried round the latter, but each edge was attached to the side of the twig by means of cobweb only. The lining was of finer grasses, and more especially of the fine black roots of a fern (*Pellaea hastata*) which was common in the glen. The nest, which at first sight reminded one strongly of that of *Pachyprora erythrophthalma*, was not, however, quite so scrupulously neat and compact, and was consequently weaker and more pliable. The eggs were two in number, white, with small reddish and light violet-grey spots, congregated chiefly about the larger end, and measured 20 mm. by 14.

139. *DICRURUS AFER*. Fork-tailed Drongo.

Singuni: "Intengu" or "Induna-yezinyone" ("General of the Birds"). Chindao: "Indhenguri."

Rh., P. I frequently saw this Drongo in pairs or heard its tinny notes throughout my last low-veld journey, noting it particularly on the Umtefu River, and at Chibabava, Muchukwana, Indabila, Chironda, Inyamita, Bimba, Gezanye, and Arucate, in the last-named locality keeping to the *Brachystegia*-woods and not entering the forests. It seemed to be nowhere very plentiful, each pair probably lording it in the breeding-season over a fair-sized piece of country, and resenting intrusion by others of the same species. I have noted it once or twice in the past year in the upper Jihu, and only once in the lower (on the Kuru-madzi on August 1st). It is never found in true forest or dense bush. The natives have an idea that other animals see the new moon on the day before it becomes visible to man, and state that they can themselves tell by the excited cries of the Drongo, silent or comparatively so for some days previously, when the new moon is about to appear. The three specimens which I have measured varied from 9 to 9.35 inches in length in the flesh.

140. *DICRURUS LUDWIGI*. Forest-Drongo.

Singuni: "Intengu." Chindao: "Indhenguri."

Rh., P. Although its tail is not so deeply forked as in the preceding species, "Square-tailed Drongo" is a distinct misnomer for this bird, as anyone who has observed it will agree.

I saw and heard it occasionally last August in the denser bush of the lower Jihu, and have noted it in the Maruma and Chikamboge Valley forest-patches as well as in those of Southern Melsetter. It is anything but a silent bird.

In the low veld I found it in the denser bush at Boka's, in the Idunda River forest-patch, at Inyamita, between the Idunda and Umhlonhlo, and in the Madanda forests.

Four specimens averaged 7.74 inches in length in the flesh, varying from 7.5 to 7.95.

141. CAMPOPIIAGA NIGRA. Black Cuckoo-Shrike.

Rh., P. Occasionally noted on the Kurumadzi in August, where, far from being shy, the males were exceedingly bold in their demeanour, perching in Drongo-like fashion high in the branches of the larger trees and conspicuous alike by their glossy blue-black sheen and the loudness of their note, which in winter is a bold "chup, chup!" uttered at frequent intervals. I have had only one opportunity of observing a female, but should her retiring behaviour on that occasion be at all characteristic of the sex in general, I should say that here is a double case of mimicry, the female being as well served by her Cuckoo-like habits and plumage as is her mate by the likeness both of his coloration and of his demeanour to those of the redoubtable "General of the Birds." At the same time I found the males to be very wary and difficult of approach, and it was only after considerable trouble that I succeeded in securing a specimen. Actually the bird is readily distinguishable, even at a distance, from *either* Drongo by the squareness of its tail. I noted it at Maruma in September, and in the same month in one of my Eucalypt plantations near Chirinda, again hearing its call in the forest several times in March and April. And in the middle of November, in travelling from my camp on the Kurumadzi to Mount Singuno, I noticed it several times sitting on prominent branches and uttering a loud mellow "Chiwu-chiwu chiwi-chiwi-chiwi-chiwi chiwu-chiwu, &c.," again bold enough in manner but unapproachable.

The length of my male in the flesh was 7·7 inches, and of the female 7·75; her feet were sepia (black in male). The stomachs contained a grasshopper and the remnants of other insects, and (of the female) nineteen small green caterpillars.

142. GRAUCALUS PECTORALIS. Grey-throated Cuckoo-Shrike.

Rh., P. This bird when insect-hunting in the thorns or other trees always strikes me as presenting a very quaint and

grandfatherly appearance, peering, as it does, in a careful and short-sighted manner at every leaf and twig. As well as at various spots in Southern Melssetter, I have noted it on the Inyamadzi, a few miles above that river's junction with the Buzi, and in August I shot a female in the thick bush on the Kurumadzi. Its cry when wounded and taken in the hand is a long, stridulous, often-repeated scream (probably its ordinary alarm-note), like that of some of the smaller Hawks, which it also resembles in its flight. In fact, it is often erroneously called by the natives "Ukozi," their general term for Hawks.

The colour of the throat is not an invariable sexual distinguishing mark, for on May 9th I shot an entirely grey-throated female, and I remember noting the same thing at Salisbury ten years ago.

Five of these birds averaged in length 9·45 inches in the flesh, maximum and minimum 8·8 and 9·9 respectively. The stomachs examined contained weevils, cockchafers and other beetles, grasshoppers, mantises, larvæ of different kinds, and locusts.

143. *GRAUCALUS CÆSIUS*. Grey Cuckoo-Shrike.

Rh. By no means uncommon in Chirinda, where, during the past season, I have noted quite a number, usually insect-hunting singly or in pairs in the higher branches of the larger forest-trees, and occasionally to be seen on the outskirts—once quite outside, in a neighbouring grove of Acacias. The bill and feet are black, sometimes with a plum-like bloom of the same delicate grey as the plumage; this rubs off, unfortunately, with handling. Irides deep sepia; soles pale ochreous-grey. The stomachs contained two fair-sized weevils (nearly intact), a feather (probably swallowed accidentally), larvæ (including a particularly large one, entire), a mantis, and beetles. The specimens measured varied from 9·5 to 10 inches, with an average of 9·7.

144. *HIRUNDO RUSTICA*. European Swallow.

Singuni: "Ikonjana," applied to all Swallows.

Rh., P. I first fell in with the English Swallow in 1906

on December 18th at Muchukwana, eighteen miles east of Chibabava. They were present in considerable numbers, hawking about and settling on the trees, and were apparently on their way inland from the coast, as I found them then scattered throughout the country as far as Beira, where numbers were to be seen perching on the telegraph-wires in the neighbourhood of the town. On my return to Chirinda on January 10th I found them there already, but they disappeared again three weeks later.

145. *HIRUNDO ALBIGULARIS*. White-throated Swallow.

P. I noted several of these birds in December and January in the low veld, hawking about and settling on trees and wires in company with *Hirundo rustica*.

146. *HIRUNDO DIMIDIATA*. Pearl-breasted Swallow.

Rh. I seem to have only once noted this formerly common Swallow during the past twelve months, namely, on March 31st, at Umlangeni's kraal on the upper Buzi, where a number were hawking over some old Kafir lands. The stomach of one in my collection contained flies and small beetles.

147. *HIRUNDO ATROCERULEA*. Blue Swallow.

Rh. This is a fairly common Swallow which has in the past frequently visited us at Chirinda, remaining usually for some weeks at a time, but I seem last year to have seen much less of it than of either *H. griseopyga* or of *Psalidoprogne orientalis*. It was with us, however, during November, in some numbers, and early in the previous month I had noted it on the Chipetzana River; while, during September, I found it to be common right through Northern Melssetter, particularly in the Nyahodi Valley and about the township itself.

A male, evidently breeding, shot on March 22nd, measured 8.5 inches; the stomach contained flies only.

This Swallow was previously supposed to be confined to Natal.

148. *HIRUNDO GRISEOPYGA*. Grey-rumped Swallow.

Rh., P. During the past year I have seen a great deal of this Swallow, which, rare elsewhere in South Africa, seems to occur commonly throughout Northern and Southern Mafeking, sometimes in pairs, but usually in some numbers and occasionally in company with *Psalidoprocne orientalis*. Some of the localities in which I have noted it are the neighbourhood of Chirinda, Spungabera, and the upper Jihu (in all of which contiguous localities it was particularly plentiful during June and July, and again in November); at Maruma, where I saw it daily during my week's stay there in September; all along the Nyahodi Valley later in the same month, "hawking low over the new grass and sometimes settling to feed in the road"; and on the Chipetzana in October, in company with *H. atrocærulea*. On the 16th of July, out of a number which were hawking forwards and backwards in the early morning near Mr. Ballantyne's homestead in the upper Jihu, two began descending and settling on a recently-hoed strip of ground, remaining there for a second or two, then up, and after another short round again settling, and so on. A termite-heap had been broken open at that spot, and this was doubtless the attraction. Two adult birds measured in length in the flesh 5·6 and 5·8 inches respectively, and an immature bird 4·35. Bill black, irides and feet dark vandyk-brown. Contents: numerous small flies and beetles.

149. *HIRUNDO PUELLA*. Smaller Striped-breasted Swallow.

Rh., P. I have not yet seen this Swallow in the Jihu, though throughout both sections of the Mafeking District it is exceedingly plentiful (I noted it particularly along the Lusitu and Nyahodi Valleys in September), while, on the Portuguese side of the border, I have found it in the Chikamboge Valley and at Spungabera. A pair were already building at my homestead last year in July and had brought out their young by the end of August, at a time when most of their companions were merely beginning to enter verandahs and houses and the sheltered crannies of exposed shale-cliffs

in search of nesting-sites. In November breeding is in full swing in such places. The nest consists of a broad chamber of mud pellets thickly lined with soft grasses and other material, and is entered from the side through a tunnel of variable length, sometimes a foot or more. Occasionally it is attractively constructed of clay of as many as three different colours. On November 7th, 1906, I had just at dusk shot a *Terpsiphone*, with a view to identifying its nest, when I noted that its mate, which was continuing to call, was being answered each time from a small cliff close by by the somewhat nasal "weeping" note of a Swallow, and I found on investigating that a pair of Swallows of the present species were resting side by side in the chamber of their nest under a ledge of rock. There were no eggs.

These Swallows are always attracted by grass-fires, and the following extract from my diary for September 5th is illustrative of their usual behaviour on such occasions:—"When we commenced to burn, first two Swallows appeared, then a few more pairs, and soon an enormous flock was present—not less, I should say, than two hundred,—which, keeping more or less together, hawked up and down over and around the smoke, never venturing into the denser cloud and seeming to get plenty of insects. After a time they became slacker in their hunt and took to flying higher, amusing themselves by fluttering up against the wind time after time in a fairly compact body, being evidently by this time replete. Finally, they rose and made off, the last I saw of them being at some distance from the fire, wheeling idly about in company with a Kite at a great height in the air. They were practically all *H. puella*, but I once or twice saw a small Swallow which I took to be *H. dimidiata*." The stomach of a female shot on this occasion contained two Coccinellidæ, a small green-winged neuropterous insect, and a frog-hopper. A few pairs of *Hirundo puella* also come to the smoke whenever I burn my seed-beds, but they at once make off on finding that no insects fly out; and this action on their part must communicate the fact to the others, for no matter how much longer the fire continues no further Swallows visit it.

During February and March of the present year the present species and *Psalidoprocne orientalis*, usually our two commonest Swallows, entirely disappeared for several weeks from the immediate neighbourhood of Chirinda, but were found meantime in considerable numbers only a few miles away on the upper Umswirizwi, where doubtless the food-supply was temporarily more abundant — shewing that apparent migration may be very local.

150. *HIRUNDO MONTEIRI*. Monteiro's Swallow.

P. I saw one of these fine Swallows hawking backwards and forwards over a small pool at Indabila in the low veld on December 19th, and again noted it at Zinyumbo in January.

The stomach of my specimen contained only two or three flies.

151. *PSALIDOPROCNE ORIENTALIS*. Eastern Rough-winged Swallow.

Rh., P. This is one of our commonest Swallows about Chirinda, and was particularly plentiful on the Kurumadzi during my visits to that river both in August and in November. It was equally abundant at Maruma, where I used to see it daily in large companies in September, and, in the same month, I noted it on the Lusitu. It seems to perch on trees to a greater extent than most other Swallows, and individuals of the flock which haunts Chipete may frequently be found settling, especially towards sunset, on the barer branches of the "Mutsawhare" (*Catha edulis*) and other trees on the edge of the forest-patch. They are very tame, permitting one to pass under the branch on which they are resting, often three or four together, either sitting meditatively till the inclination seizes them to dash forth again, or employed more usefully in preening their feathers; first one wing, then the other, goes up with a pretty flash of white to allow the bill to get at the axillaries. They may often be found hawking low over the grass at nightfall, uttering constantly two notes, a short chirp, and a "weeping" note, which is a slightly harsher and louder edition of that of *Zosterops anderssoni*. Two of the males in my collection

measured respectively 5·8 and 6·25 inches in the flesh. The stomachs contained flies innumerable and small beetles.

152. PITTA LONGIPENNIS. Central-African Pitta.

Pitta longipennis Reichen. Vög. Afr. ii. p. 390.

Rh., P. I saw for a second on August 8th, in the dense bush of the Kurumadzi, a bird which I took to be a Pitta. It was running away from me and I had no time for a shot, but a local native who was with me informed me that he knew it well, that it was a bird "with a red breast and black head" and the owner of a note which I was constantly hearing, a ringing "plop-plop," reminding me of what I had read of the note of the Pitta. I have also heard this call in Maruma, on Mt. Umtereni, in the Mt. Pene forest-patch, and elsewhere.

[To be continued.]

II.—On the Ground-Dove of Porto Rico, with Notes on the other Species of *Chamæpelis*. By PERCY R. LOWE, B.A., M.B.O.U.

THE Ground-Doves of the genus *Chamæpelis* are admitted to be a difficult subject for study, and my only excuse for offering a few remarks on them lies in the fact that I have lately been able to make personal observations as to the colour of the bill in the species inhabiting the different islands of the Antillean Subregion. Although this is, in all probability, the principal character for the separation of the various forms, it is by no means the only one, as the variations in the plumage should not be neglected.

It will be seen by the nomenclature of the various species that most of them have been considered to be forms of the *Columba passerina* of Linnæus; but this being a composite species the name *passerina* should, I think, be dropped altogether.

Linnæus apparently never saw an actual specimen of these Ground-Doves, and, moreover, by adding, as synonyms of his *Columba passerina*, the "Ground-Dove of the Carolinas" of Catesby (Nat. Hist. Carol. i. p. 26, pl. 26) and the Ground-Dove of Sloane (Nat. Hist. of Jamaica, ii. p. 305), united the